

# CALIFORNIA STATE BOARD OF HEALTH

## MONTHLY BULLETIN

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# MONTHLY BULLETIN

## CALIFORNIA STATE BOARD OF HEALTH

Devoted to the Prevention of Sickness and Death

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Sent free, on request, to any citizen of California.

WILBUR A. SAWYER, M.D., Secretary and Executive Officer . . . Editor  
GUY P. JONES, Morbidity Statistician . . . Associate Editor

### EDITORIALS.

#### Collegiate Alumnae Have Infant Welfare Film.

The Certified Milk and Baby Hygiene Committee of the Association of Collegiate Alumnae of San Francisco has prepared a set of moving picture films depicting the fundamentals in the care of the child, beginning with the prenatal period and covering successive periods up to six years of age. These films have been endorsed by the California State Board of Health and are now being shown in various moving picture theaters throughout the state. A small booklet written by Dr. Adelaide Brown, member of the California State Board of Health, which embodies the health lessons shown in the films, is being distributed to spectators wherever the films are shown.

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#### Big Families Take Money and Brains.

In 1915, a family of thirteen persons from Marin County received a prize for the largest family in attendance at the Panama-Pacific International Exposition. Recently, every member of this family except the youngest, a nursing infant, contracted trichinosis from eating insufficiently cooked and infected pork. Feeding a family of eleven growing children is no joke in these days, and it requires money and education, to say nothing of executive ability, to bring up a large family. If the parents of these eleven children had known that eating raw pork may cause trichinosis, Marin County would not have eleven patients to care for and these serious illnesses would not have occurred. Rooseveltian families are not as popular as they were a few years ago. The increased cost of living is not alone responsible for this. There is an added sense of responsibility in bringing up a family and not the cost alone, but also the duties of providing home sanitation and properly caring for the health of children increases in exact proportion to the size of the family.



**Rabies Quarantine  
in Siskiyou County.**

A quarantine because of the presence of rabies in animals has been placed upon Siskiyou County. Enforcement of the quarantine is in the hands of Dr. J. Roy Jones, county health officer. While the number of rabid animals found in Siskiyou County is not large, for the purpose of insuring the health and safety of the people of the county, it was considered necessary to establish quarantine. Under the efficient supervision of Dr. Jones and with the cooperation of the people of the county, it is anticipated that the disease will soon be under control in Siskiyou County.

\* \* \* \* \*

**Sand and Sawdust  
Cuspidors Tabooed.**

Cuspidors consisting of wooden boxes filled with sand or sawdust are seen in some of the railroad stations and other places in California. Such contrivances are very insanitary because sand and sawdust do not easily absorb sputum. Flies may thus come into contact with sputum and such infective material when dried may be scattered about by the wind. Moreover, the presence of these contrivances but encourages their use. A metal or earthenware cuspidor kept partly filled with water or a disinfectant solution and cleaned at regular intervals is much more sanitary and much more desirable from every point of view.

\* \* \* \* \*

**The Importance of  
Lowering Tubercu-  
losis Death Rate.**

Few persons realize the significance of the great reduction in the tuberculosis death rate in 1916. The drop from 194.5 per hundred thousand population in 1915 to 178.5 per hundred thousand population in 1916 means more to the citizens of California than the saving of many thousands of dollars. If California, having one of the highest death rates for tuberculosis in white persons of any state in the Union, can show greater reduction in numbers of deaths from this disease, it indicates that the present methods of control are accomplishing results. The saving of nearly three hundred lives in one year from tuberculosis is an achievement that every Californian should be proud of.

\* \* \* \* \*

**Appellate Court  
Upholds Tubercu-  
losis Subsidies.**

The Appellate Court recently handed down a decision upholding the act which provides for subsidies for county hospitals caring for tuberculosis cases according to the standard required by the State Board of Health.

The constitutionality of this act had been questioned, it having been claimed that the state has no right to appropriate money for institutions not owned by the state and not entirely under its control. The decision of the court, written by Justice Hart and concurred in by Justices Chipman and Burnett, takes the ground that the constitution nowhere places the burden of maintaining, supporting and caring for the indigent sick upon the counties of the state. It holds that the burden of maintaining places for the care of such persons has not been transferred from the state to the counties. It holds



that counties are merely agents of the state and the state may exercise any functions which it had previously delegated to such local agencies. The decision means much in the control of tuberculosis in California. The continuance of the state tuberculosis subsidy will, without doubt, reduce the tuberculosis death rate greatly.

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**Other States  
Envious of Our  
Milk Law.**

The California milk law, probably one of the most important public health measures that has become effective in California in many years, is now receiving assault after assault in the legislature. It is strange that a measure, the only object of which is the safeguarding of the health of children, should be placed in jeopardy. If there is anything of greater importance to the state than the health of its children, its future citizens, we do not know what it is. Other states not having such a beneficent milk law look to California with longing eyes. There is no public health measure in California concerning which so many inquiries have been received, as this milk law. To weaken its provisions would be a step backward.

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**Oakland Opposes  
Weakening Milk Law.**

The Oakland City Council does not favor weakening the existing milk law and sees danger in the elimination of the tuberculin test in dairies having less than four cows. The following resolution was recently passed by the Oakland City Council:

"WHEREAS, There is now pending before the state legislature Assembly Bill No. 476, regarding the elimination of the testing for tuberculosis in dairies having four cows, or less; and

"WHEREAS, In the opinion of the health officer and the city veterinarian of the city of Oakland this is a vicious measure in that it will allow the sale of tubercular milk to the people of the city of Oakland; now, therefore, be it

"Resolved, That this council hereby places itself on record as being opposed to said bill, and the city clerk be and he is hereby instructed to forward copies of this resolution to the chairman of the Public Health Committee and to each senator and assemblyman from Alameda County."

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**Tuberculosis and  
Syphilis in Food  
Handlers.**

To have food served or cooked by a person in the active stages of tuberculosis or syphilis is not conducive to a better appetite and it may have a great deal to do with future health. In New York City, where all food handlers are examined by the city health department, it was found last year that one in 1,000 among this class of workers suffered from tuberculosis. Out of 20,357 food handlers thus examined, 111 syphilitics and 22 cases of gonorrhea were found. Is the cook in your restaurant careful and cleanly in the preparation of the food that you eat?



**The Importance of  
Early Discovery  
of Diseases.**

It generally happens that the persons who are more clearly in need of learning all that may be possible concerning their physical condition are the persons who have the least opportunity for securing this most important information. It has been found in New York City that 8 per cent of pushcart peddlers are syphilitic. It is but rarely that an early case of tuberculosis, in its curable state, is discovered among the colored population. These people take almost no precautions and medical advice is not obtained until they are unable to work. Early discovery of cases of tuberculosis and of syphilis is perhaps one of the most essential needs in the control of these two diseases, the social diseases, that bring such havoc to modern civilization. The greater the opportunities that are offered for discovering cases of these diseases early, the greater the results in the conservation of the public health.

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**Screening Fruits  
Against Flies.**

Some California cities have ordinances requiring that vegetables, fruits and such foodstuffs, be screened against flies, in addition to the provisions of the Food Sanitation Act. There is a certain element of danger in the transfer of infection from sputum on the sidewalks and gutters to fruits and vegetables by means of flies. The public has a right to demand that fruits and vegetables be protected from flies, and in truly progressive communities the screening of fruit and vegetable stands is taken as a matter of course. The enforcement of antispitting laws makes such screening less necessary, but even so, eating street dust with fruits and vegetables is not a pleasant thought.

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**City Health Departments  
Issue Annual Reports.**

The health departments at Los Angeles and Berkeley have recently published their annual reports. The Berkeley report indicates that a large amount of work has been accomplished under the direction of Dr. J. J. Benton, health officer, in the control of communicable disease, milk and meat inspection, housing and general sanitation. The activities of the Los Angeles city health department were most varied, embracing the control of communicable diseases, school inspection, housing, sanitary inspection, fruit and vegetable inspection, meat, bakery and restaurant inspection, milk inspection, inspection of foodstuffs and municipal nursing. The Los Angeles report is well illustrated and reflects great credit to Dr. L. M. Powers, health commissioner, and his associates.

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**How to Avoid Use of  
Expensive Potatoes.**

Feeding the human animal becomes a more acute problem with the housewife day by day. War prices of foodstuffs rise rather than decline. Maintaining the public health through supplying plenty of nutritious food to the individual in the face of rising costs, is one of the most important issues of the day. The chief burden of this problem falls upon the housewife, who will find valuable information regarding substitutes for potatoes in an article by Prof. M. E. Jaffa, consulting nutrition expert of the California State Board of Health, which is published in this number of the Bulletin.



**Stockton Establishes a Bacteriological Laboratory.**

A bacteriologist is now employed by the Stockton city health department under the direction of Dr. Linwood Dozier, city health officer. An active campaign in the control of diphtheria has been instituted and the carrier problem in the schools is receiving deserved attention. Stockton has adopted modern methods in the control of communicable diseases and is to be congratulated upon the establishment of a bacteriological laboratory, which will be of great value in the work of the health department.

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**No Smallpox if Vaccinated.**

A man and his wife with their five children recently arrived in a city of southern California from a town in Montana where smallpox had been prevalent. They visited a brother and his wife who also have five children. One of the little visitors developed smallpox shortly after arriving in California and every member of the two families now has the disease, with the exception of the mother of the California family, who was vaccinated in childhood. None of the thirteen others had ever been vaccinated. And still some people don't believe in vaccination.

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**Public Health Nursing in Los Angeles.**

The gradual transfer of many welfare activities from private management to municipal management in Los Angeles saddled an intricate problem of organization upon the city's Nursing Commission. The services of Miss Mary E. Lent, R. N., of Baltimore, Secretary of the National Organization for Public Health Nursing, were obtained for the purpose of organizing the municipal nursing of Los Angeles into a smooth running machine. The desired results have been accomplished, and in this number of the Bulletin there will be found an outline of the scheme of reorganization of this important part of public health work in Los Angeles.

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**Quick Work and Real Cooperation.**

One morning in February, the fourteenth to be exact, two young men faced the unwelcome task of disposing of a dead cow. Digging was not according to their taste, so, after removing the valuable hide, they rolled the carcass into the Feather River. Perhaps they didn't care whether they violated the stream pollution laws, made the drinking water of Sacramento less potable, and created a nuisance somewhere down stream. But public officials cared and the young men care now. The act was seen by a deputy of the State Fish and Game Commission, who was nearby in a boat. He telephoned to the commission, which, in turn, notified the State Board of Health, which telephoned to Dr. L. L. Thompson, health officer of Butte County. Dr. Thompson investigated at once and telephoned in the afternoon that both men had been arrested and that their cases would soon be heard in court. Cooperation and fast work of this sort by state and county officials create respect for the health laws.



## MODERN VENTILATION STANDARDS FOR SCHOOLS.

By MARGARET I. BEATTIE, A.B., Student Assistant in Bacteriology, and John N. Force, M.D., Gr.P.H., Assistant Professor of Epidemiology, University of California.

The ventilation of buildings, and especially of school buildings, has always been a matter for controversy. Children spend a large part of the formative period of their lives in schoolrooms and it is imperative that they should have the best air conditions during that time. While in school children are the wards of the state and if the school is to serve the highest ends of the state it must at least provide physical conditions conducive to the complete development and efficiency of the child.

### Defects of Ordinary Ventilating System.

The ordinary system combines heating with ventilation. In this system heated air is driven into the room through an inlet eight feet from the floor. The outlet for the air is at the same side as the inlet but at the floor line and the air is supposed to diffuse through the room from the inlet and return along the floor to the outlet. This system, judged by the physiological standard of comfort, has continually proved inefficient. Good ventilation is something more than supplying and exhausting measured volumes of air. Living bodies in an enclosed space produce up-currents of warmed air and these up-currents are so constant that they will reduce the efficiency of any system of ventilation which employs down currents of air. A system of ventilation should provide for local control in each room, because mechanical methods which provide proper distribution of air in one room may not assure such distribution in another room in the same building where different weather exposure, glass area, or some other variable factor may alter the situation. Heating and ventilation are separate problems and heating and ventilating systems should never be combined.

In two such systems recently investigated the air conditions found were most unsatisfactory. In one the air passed directly from inlet to outlet without circulating throughout the room. In the other distribution in the room was disturbed by weather conditions and insufficient movement of air was a constant result. The opening of windows, to improve air conditions, further disturbs the system because the heated air will leave by the nearest open window. With no local control possible teacher and pupils may be forced to submit to stifling air in a sunny room because the north classrooms still need the supply of warmed air. Local control would allow the teacher to shut off the heated air from his room and open the windows.

### Modern Ventilation Standards.

The new standards for ventilation are easy to determine and very definite, since they are based on the temperature, humidity, and motion of the air in the enclosed space.\* The new physiological standards are

\*Note—The instruments needed for testing schoolroom air conditions are: an anemometer (to determine the amount of air delivered), a sling psychrometer (for relative humidity), a recording thermometer, and a current indicator (such as the Shaw current indicator.) The methods to be employed are described in the American Journal of Public Health, 1917, vii, 54.



so radically different from the old chemical and mechanical standards that the whole conception of what constitutes proper ventilation has changed. The amount of carbon dioxide in the air is not nearly so important as its temperature and humidity, and the motion of air in a room and not its impurities must be considered first.

*Temperature.* The temperature of school rooms is a most important factor. Winslow, of the New York State Commission on Ventilation, says, "The thermometer is the first essential in estimating the success of ventilation. A rise above seventy degrees must be recognized as a sign that discomfort is being produced, efficiency decreased, and vitality lowered." Heat is conducted away from the body through the skin and lungs and if the air in a room is too warm, radiation of heat from the body is lessened, with resulting discomfort, irritability and loss of efficiency. Variations in schoolroom temperature, within certain limits, are to be encouraged. The benefit of the practice of keeping each room in a school building at a set temperature is questionable. The beneficial effects of open-window or outdoor schools are due to the stimulating effect of natural changes in temperature and humidity.

*Humidity.* Temperature must always be considered in association with relative humidity. As yet there is no determined optimum percentage for relative humidity. The body gives off heat and moisture and the temperature and humidity of air directly condition the amount of heat and moisture which can be conducted away from the body. By means of a recently devised instrument, called the Kata thermometer, it has been determined that room comfort is conditioned upon the rate of evaporation from warm, moist surfaces. It was determined by vote of occupants of test rooms that there is a very definite comfort zone measured by these thermometers. If air is too moist the moisture from the body can not evaporate and great discomfort ensues. On the other hand if air is too dry the moisture from the surface of the body and from the membranes of the nose and throat will be completely evaporated and discomfort and irritation will result. Miller and Cocks, of the New York commission, have shown that, besides the devitalizing effect of overheated air, the drying of the mucous membranes of the nose and throat may cause complete occlusion of one, or partial occlusion of both nasal passages, making these membranes more susceptible to bacterial invasion.

*Air Motion.* Air motion is closely associated with temperature and relative humidity. Air unpleasant to the senses is generally still air and it has been proved experimentally that moving air can be rebreathed many times without discomfort. If air in a room is not moving each person has about him an envelope saturated with moisture. Great discomfort results because of the necessary readjustment of the body heat-regulating mechanism and the retention of moisture on the skin. This discomfort is evident to a person seated in a closed cabinet while breathing through a tube connected with air outside the cabinet. Thus it is seen that temperature, relative humidity, and motion of air are intimately associated, that each is equally important, and that an ideal ventilating system is one which supplies air in constant motion, properly tempered, and containing sufficient moisture. Lee of the New York



commission says: "Living beings constantly produce and give off to their environment an excess of bodily heat. This heat must be constantly carried away from the body and is carried away partly through the lungs in expired air, but chiefly through the skin by the process of radiation, conduction through the clothing and the evaporation of perspiration. It is obvious that to insure this necessary and healthful removal of heat there is needed about the body an atmosphere that is neither too hot nor too humid. If it is too hot, radiation and conduction are prevented; if too humid, the evaporation of perspiration is interfered with; and if the two conditions exist simultaneously the result is a rise of bodily temperature with concomitant interference with the body's well being. According to this conception the air problem involved is a problem of physics, and not of chemistry; the physiologic problem is a problem that begins with the skin and not the lungs; and the ventilating problem is a problem of maintaining the proper temperature, humidity and motion of air."

#### Practical Application of Modern Standards.

The means by which good ventilation can be assured are relatively simple. In most schools, especially in California, window ventilation is sufficient. Proper motion must be the first consideration. This necessitates an air current crossing the up-current from the bodies of the room occupants. This cross ventilation can only be assured through two sets of openings on opposite sides of a room. This does not mean windows on two sides of a room, for that would interfere with lighting and be expensive. Schools of the type of the Emerson school in Oakland have the greatest possibilities for cross ventilation. In this school the windows are in three sections and open out. In each room four transoms are placed on the side opposite to the windows. In a series of experiments conducted in that school air motion was practically constant. The opening of the two upper sections of the windows and the opposite transoms was usually sufficient to produce a cross current high above the heads of the occupants. Generally the motion of air out-of-doors will create sufficient motion indoors when openings on opposite sides of the room are in use, but in localities where there are many days when the air is very still, the placing of small electric fans, facing out, in the transoms, will create enough suction to insure movement.

When heat is needed local heating units under the windows are sufficient. These should be controlled in the room though the steam or hot air used may be delivered from a central plant. The air entering through the windows will be warmed and the heaters will cause a flow of warmed air which will conform to the natural direction of air in the room. If the ordinary plenum system is already installed, and it is desired to disconnect the room from the central plant, shutters should be supplied for the inlet and outlet openings and transom openings made in the side of the room opposite to the windows so that sufficient window ventilation will be available.

Open-window schoolrooms are no longer a fad. A recent bulletin of the New York City Department of Health states: "The open air classes and classes held in rooms with open windows which so recently were considered experimental, are now recognized as a real need in



all schools. This year, in almost every school, notes have been received from parents asking that their children might remain in the fresh-air class, or that their children might be placed in such a class. The children themselves have begged to be allowed to continue in the fresh air, complaining that they felt smothered and had headaches in any other room. Letters from physicians have also been received asking that the children in whom they are interested might have the benefit of the fresh-air classroom. Convinced of the benefits which the sub-normal children have received by being taught in the fresh air, open window rooms for normal children were established in many schools. This was done largely at the request of teachers, and it speaks well for the latter that at present there are three hundred teaching in open window rooms."

#### NATIONAL CONFERENCE OF CHARITIES AND CORRECTION.

A realization of the importance of health seems to have spread through the program of the National Conference of Charities and Correction like an infection. The outline of discussions at the forty-fourth annual meeting of the organization, to be held at Pittsburgh June 6th to 13th, has just been issued from the permanent office at Chicago. The division on health will be under the chairmanship of Professor C. E. A. Winslow of Yale University, and the vice chairmanship of Dr. H. M. Bracken, secretary of the Minnesota State Board of Health.

The modern public health program will be featured by the chairman in his address. This idea seems to characterize also the discussions scheduled to occur at four other meetings under his direction. "What the Social Worker has Done for Public Health" will be the topic of Homer Folks of New York, a former president of the National Conference.

The campaign against infant mortality will be brought to the attention of the conference by Miss Julia C. Lathrop of the Federal Children's Bureau, and Dr. Charles E. Terry, late health officer of Jacksonville, Florida. Professor Graham Lusk of Cornell University Medical College will speak on hygiene and economy in diet. Coordination of health activities appears prominently in the program outline. Three phases will be presented, respectively, by Franz Schneider, Jr., and Gertrude Seymour of New York, and Wilbur C. Phillips of Washington: the apportionment of the health budget, the relation between social workers and public officials and the health center plan. Another session will be devoted to public health nursing.

"The United States is the only great industrial nation without compulsory health insurance," Professor Irving Fisher has said recently. In view of this need, the National Conference has provided an entire division on the subject of social insurance for its meetings at Pittsburgh. The chairman of his series of discussions is Max Senior of Cincinnati. The program has been arranged to occur the latter part of the conference period so as to accommodate medical men who attend the meeting of the American Medical Association in New York.



## RICE AND MACARONI AS SUBSTITUTES FOR POTATOES.

## A DISCUSSION OF THEIR RELATIVE FOOD VALUES.

By M. E. JAFFA, M.S., Consulting Nutrition Expert, California State Board of Health.

## Macaroni vs. Potatoes.

Macaroni can be used to advantage, under proper conditions, in the place of potatoes, and in view of the ruling prices, such a substitution is decidedly economical. Macaroni retails for about 10 cents a pound, while potatoes, in less than 100 pound lots, rate at 5 cents a pound. The analyses of macaroni and potatoes are given herewith:

	Water, per cent	Protein, per cent	Fat, per cent	Starch, sugar, etc., per cent	Crude fiber, per cent	Ash, per cent	Fuel value, per lb. calories
Macaroni, average, raw -----	10.3	13.4	.9	74.1	-----	1.3	1,665
Macaroni, cooked---	78.4	3.0	1.5	15.8	-----	1.3	415
Spaghetti, average, raw -----	10.6	12.1	.4	76.3	-----	.6	1,660
*Potatoes, average, raw -----	78.3	2.2	.1	18.0	.4	1.0	385
Potatoes, average, cooked -----	75.5	2.5	.1	20.0	.6	1.0	440

\*Edible portion.

It will be noticed from the above table that there is little difference between the composition of a raw potato, edible portion, and the cooked article, and it must be further remembered that the edible portion represents only about 0.9 of the original purchase, so that if one pays 5 cents a pound for the raw article, the edible portion will cost 5½ cents a pound. On the other hand when one pays 10 cents a pound for macaroni, there is no waste whatever.

The comparison between the raw potato and the raw macaroni is not a fair one. These foods should be compared when ready to serve. One pound of raw potatoes, edible portion, when cooked will not appreciably increase in weight. In other words, one pound of cooked potatoes represents one pound of the raw article. On the other hand, when macaroni is cooked, it absorbs water to the extent that one pound of raw macaroni will result in four pounds of cooked. Therefore the price of cooked macaroni is 2½ cents a pound as against 5½ cents for one pound of cooked potato. The cooked macaroni ranks higher in protein and mineral matter than does the potato while the latter shows a somewhat higher percentage of starch.

It must not be forgotten in making such a substitution that potatoes are valuable on account of the content of base-forming elements. The cereals on the other hand contain an excess of acid-forming elements. If macaroni is substituted largely for potatoes and the base-forming elements not supplied from other sources, the substitution might bring about undesirable results on account of the macaroni containing an



excess of acid-forming elements. It is therefore necessary to be sure that there is an ample supply of fresh vegetables and fruit to furnish these base-forming elements in order to make up the deficiency caused by the withdrawal of the potatoes.

#### Rice vs. Potatoes.

Many inquiries have been received relative to the substitution of rice for potatoes. Such a substitution can be very advantageously made in the case of a mixed or varied diet, because the food accessories and mineral matter found in the potato and not in the white or head rice, will be furnished by other articles in the menu. Furthermore, in view of the current prices, this replacement would be very economical.

One pound of potatoes raw will produce about an equal weight of the cooked article, containing between 75 and 80 per cent of water, about 2 per cent of protein, 1 per cent of mineral matter, and the remainder mainly starch. The cooked product from a pound of rice, on the other hand, will vary from 2½ to 4 pounds, depending upon the amount of water incorporated. The latter weight will correspond to, in water content, that of an ordinary boiled potato, which contains, however, far more mineral matter, the protein content of the two products being about the same. The foregoing statements refer to the use of white rice or head rice, but as far as nutrition is concerned, the consumer would be much more benefited by the consumption of the brown rice and not the white rice, in that the former contains so much more mineral matter and food accessories than are present in the latter.

Considerable of this valuable part of the brown rice, however, will be lost to the consumer if the water in which the rice is cooked is discarded. This is the reason for strongly urging the steaming of rice or preparation in a double boiler with no excess of water added.

#### Brown Rice vs. White Rice.

The analyses of brown rice, milled rice (or head rice), and coated rice, are as follows:

Ingredients	Brown rice, per cent	Milled or head rice, per cent	Coated rice, per cent
Water -----	11.13	12.45	12.36
Ash -----	1.46	0.38	0.82
Protein -----	6.50	5.87	5.69
Starch, sugar, etc. -----	78.09	80.27	80.14
Crude fiber -----	0.61	0.24	0.34
Fat -----	2.43	0.79	0.55
Fuel value per pound, calories -----	1,638	1,600	1,607

The coated rice is the milled, or head rice, which has been treated with talc and glucose.

An examination of these figures will show that the brown rice contains more protein, ash, and fat than is noted for the milled, or head rice. The difference, however, in food value, particularly when growth is concerned, or when nervous people are concerned, is far greater than



that noted by the difference indicated by the figures, showing the content of the respective nutrients. The mineral matter in the brown rice is almost four times as large as noted for the milled rice, or white rice. Quite often we have the highly milled rice showing less than .25 per cent, while we often have brown rice showing as high as 1.75 per cent of mineral matter.

Again the brown rice contains food accessories, or, as termed by some, vitamins, small in amount, but very important in the matter of nutrition. These are not present, or to an almost negligible amount, in the white rice. The nutritive value of the brown rice, therefore, it would appear, is far higher than that of white rice. The former should be used in the case of young children and it is also far better for adults, particularly those nervously inclined. At the same time we must not conclude that white rice has no food value or similarly that white flour has no food value because graham is better in most cases. This is not true. The white rice has a high food value in that the starch and the protein are easily digested and easily assimilated, and if supplemented by other foods rich in vitamins—fresh fruit, vegetables, milk, meat, etc.—there should be no objection to its use.

The fact remains the same, however, that under present conditions the cattle and poultry receive the rice products such as rice bran and rice polish which contain these valuable accessories, while for human food there is reserved that which is poorest in these substances.

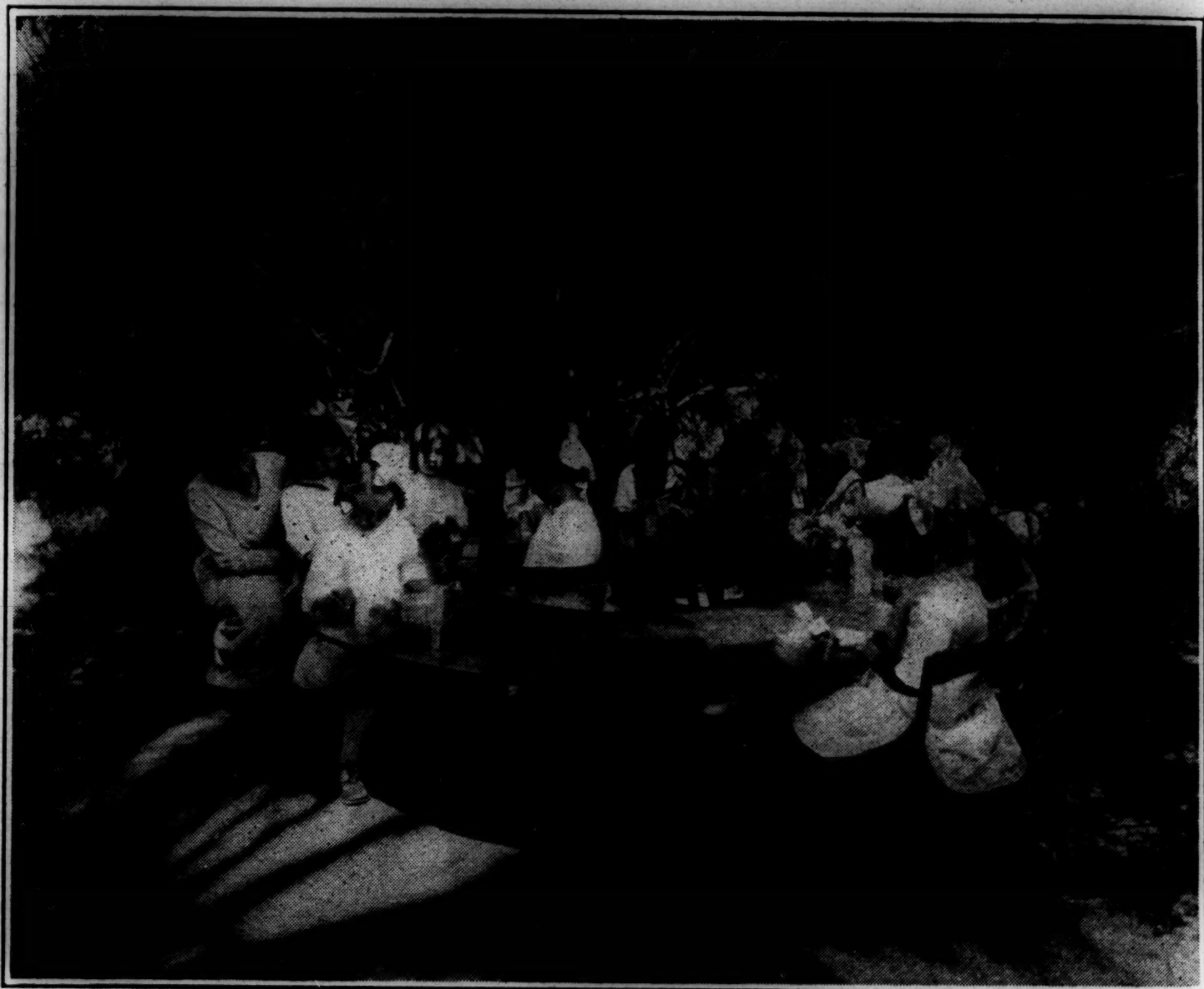
A word or two may not be out of place in connection with the cooking of the brown rice. It should not be so prepared as to necessitate the discarding of the water in which it is cooked. In other words, it should not be treated as is ordinary white rice. A considerable portion of the food accessories or vitamins and mineral matter are dissolved by water, and, if this is thrown away, much valuable material is lost to the consumer. The best results will be attained when rice is steamed or cooked in a double boiler with just a sufficient amount of water to result in a dry, grainy rice. The proportions are 1 cup of rice to  $2\frac{1}{4}$  or  $2\frac{1}{2}$  cups of water. The time required for cooking is  $1\frac{1}{2}$  hours, which is about 50 per cent longer than that required for a similar preparation of the white rice. It may be considered as edible after one hour's cooking but it is far better if allowed the longer time.

If there were a large demand created for the brown rice, there does not seem to be any reason why it should not be sold at a figure as low as that now asked for the white rice. There results from the milling of the brown rice, (1) rice bran, (2) rice polish, (3) head rice or white rice, (4) screenings, and (5) brewers' rice. The rice bran and rice polish sell at a very much lower figure than that which is asked for the head rice. The selling price, also, of the screenings and brewers' rice, is less than that of head rice. If the brown rice could be sold as above indicated, and no milling operations required, the profit accruing to the miller should be greater than that which he now receives under present practices.



## OPEN AIR SCHOOLS.

There is no established standard for open-air schools and no one has been found who can give an exact definition for such a school. One county superintendent of schools in California believes that a school-house in the mountains of his district conforms to the open-air principle because the cracks in the walls are wide enough to admit snow and wind in abundance. However this may be, it is certain that the school here pictured is an open air school in every sense of the word.



Kindergarten class at the San Jose State Normal School in a real open air school room.

The number and size of the windows, ventilation problems and the like, have no place for discussion in the design of this school. California skies may be available for ceilings in any part of the state, but the walls of greenery here shown may not always be found where needed. It is certain that the outdoor life helps in establishing health for these children. If such schools could be used everywhere many of our most perplexing public health problems might disappear in the next generation.



## CONTROL OF COMMUNICABLE DISEASES IN SCHOOLS.\*

By S. JOSEPHINE BAKER, M. D.,

Director, Bureau of Child Hygiene, Department of Health, New York City.

Theoretically, the control of communicable diseases consists in making a diagnosis sufficiently early so that the patient may be isolated and the infection of others prevented. Practically, the elimination of infection involves the employment of educational and preventive, as well as corrective, sanitary and hygienic measures.

In a discussion of the more common types of infections, exclusive of tuberculosis, we are led inevitably to a consideration of their age grouping and it is a matter of record, as well as common knowledge, that the great majority occur during that period of life which is properly known as the "school age" or from five to fifteen years of age. We speak of the "contagious diseases of childhood" and inevitably associate their occurrence with the beginning of school attendance. The stigma placed upon schools as foci for the dissemination of infection has not been undeserved. With regard to the more common types, including scarlet fever, diphtheria, measles, german measles, whooping cough, mumps and chickenpox, the curve of incidence begins with the opening of the schools in the fall, reaching its maximum in the late winter months, and falling again to the minimum as the schools close in the spring. It is probably of equal, or even greater importance, to note that the curve also follows closely the advent and increasing tendency of lowered outdoor temperature with the habit of living in overheated and closed houses or schoolrooms. Both of these factors may be considered as an indictment of school life as it still exists in too large a proportion of our communities.

**Dangers of Childhood.**

In tuberculosis the causative factors relate equally to the school and to the home. If we do not definitely regard this disease as one mainly incident to child life, at least we are becoming increasingly aware that the infection is commonly acquired during childhood and that the degree of physical resistance of the individual which is to ultimately decide whether the infection shall remain latent or shall develop, depends to a very large extent upon the degree of physical health which may be acquired during the formative years of childhood.

The school, with its segregation of large numbers of children during the winter months, offers a unique opportunity for early detection of cases of communicable disease. The routine control of infections by sanitary authorities takes as its starting point the actual reporting of a case of illness; much may then be done by enforcing procedures of isolation, but too often such notification occurs after the child has had abundant opportunity of spreading the infection both at school and at home. The ordinary tenement house in our cities may now be considered as the starting point of most local epidemics, the school, where proper health supervision is maintained, can no longer be accused of holding primarily this unenviable reputation.

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\*Reprinted from Michigan "Public Health."



School medical inspection was instituted in this country for this purpose, at first in Boston in 1894, when Commissioner Durgin started such a system to control an epidemic of diphtheria. A few years later New York city and Philadelphia recognized the value of such a procedure and at the present time, although school medical inspection has developed to include the vastly important control of all matters affecting the health of the child, the early detection and exclusion from school of children showing any symptoms of a communicable disease still remains as the part of the system which is primarily the function of health departments. Logically, the prevention of communicable diseases is so closely interrelated with the control of the general physical well-being of the child that in any well-planned and effective system of school medical inspection it is difficult, if not actually dangerous, to attempt any separation of function or authority.

#### **Schools Deserve First Consideration.**

As a working program I would submit the one followed by the Bureau of Child Hygiene of the Department of Health of New York city for the past six years.

The school building and its maintenance deserve first consideration. Classrooms should be large enough to provide at least three hundred cubic feet of air space for each pupil; each room should have direct sunlight at some period of the school day. Each child should have an individual desk with aisles at least two feet wide between the rows. Dry sweeping and dusting must be prohibited and proper oil dressing provided for the floors. Pencils should be individual and collected at the end of each day, in separate stout manila envelopes, marked with the name of the child, so that distribution may be made each morning. Lastly, and most important, adequate and free ventilation, with the provision of air at the right temperature and degree of humidity, is imperative.

In the school building, cloakrooms with individual ventilated lockers, or hooks placed at wide enough intervals so that the children's outer garments shall not be in contact, are essential. The further installation of drinking fountains or the use of the individual drinking cup, the elimination of the common towel and the provision of adequate and cleanly toilet and washing facilities, will all provide the needed surety of the first line of defense against the spread of infection in the school.

Many of the above installations and methods have not yet been attained in the New York city schools. The board of education, so far, has not placed in operation any effective plan for adequate ventilation or cleaning of classrooms, proper washing facilities or well-arranged cloakrooms, but it is hoped that these important matters will receive attention within the near future.

The main control for the prevention of the spread of communicable diseases in schools is dependent upon the system of school medical inspection. It is evident that such a system, to be effective, must rely upon such an early detection of symptoms which may indicate the onset of a communicable disease that the child may be excluded from school attendance and properly isolated at home before he has had an oppor-



tunity of infecting others. In other words, the child must be excluded upon suspicion. If we wait until an accurate diagnosis can be made, the harm has already been done.

#### How Records Are Obtained.

In New York city each day, each school receives a printed list of all cases of communicable diseases reported to the department of health on the previous day. At the opening of the school session, this list, with a special blank book, is sent to each classroom, where the teacher enters the name of each pupil in the class who is noted on the list or who is a member of the family of the patient. Such children are excluded from school at once to await further action of the division of contagious diseases of the department. The book is then returned to the school nurse, who reports each day to the school inspector where two or more cases of any one disease have occurred in any one classroom. Thereafter, the inspector visits that class each morning, examining each child for any evidence of illness and excluding suspicious cases. If the disease is diphtheria, cultures are taken from the throat of each child and all cases showing the presence of the diphtheria bacillus are excluded.

Each day each school, except a few in the outlying districts, is visited by the school doctor or the school nurse. The teachers are instructed to send to the doctor's room, as soon as the classes assemble, every child who shows any evidence of illness in any form. Upon reaching the school, the doctor or nurse examines, in a room set apart for this purpose, (a) all such children referred by the teachers as suspected cases of illness, (b) all children returning after having been ill, and (c) all children who have returned to school after any unexplained absence. At this time, any child who shows any symptoms which might indicate the development of a communicable disease, is excluded from school attendance. Cultures are taken in every case of sore throat and the child is excluded. Within twenty-four hours the child is visited at his home by an inspector, who makes the diagnosis, either isolating the case and transferring it to the supervision of the division of contagious diseases, which thereupon assumes control, or, if no communicable disease has developed, allowing the child to return to school. About 80 per cent of the excluded children are found to have true cases of communicable disease; the loss of one day's schooling for the remaining 20 per cent is of small consequence when compared with the effectiveness of this early exclusion.

#### Nurses Perform Early Work.

Trained nurses have been almost exclusively used for the past two years for the purpose of early detection of the symptoms of suspected communicable disease, and because nurses are trained to detect symptoms and are not required or expected to diagnose, the percentage of cases where the presence of a communicable disease is afterwards confirmed averages the same as when physicians were exclusively employed for this purpose.

The early detection of tuberculosis results from observation of children who have been losing weight, appear flushed or hectic, with or without an accompanying cough, or who are designated as suspicious cases



by the school doctor as a result of his regular physical examination. Such cases are referred to the bureau of preventable diseases, which sends a diagnostician to the child's home to make the detailed or repeated examinations necessary to confirm the tentative diagnosis.

A monthly routine inspection of all children in each school, the physical examinations with consequent follow-up visits to adjust insanitary and unhygienic home conditions and to secure proper treatment of physical defects, are added preventive measures. In addition, at the end of each school day, the principals send to the school doctors, a list of all children who have been absent from school more than three days for any unassigned cause. These children are visited at home by the doctor and many cases of unreported, and therefore uncontrolled, cases of communicable diseases are discovered by this so-called "absentee visiting."

This brief outline enumerates the main features of our system. The results may be stated even more briefly. During the six years since this system went into effect, it has not been necessary to close any public school in New York city on account of an epidemic of communicable disease, and in only a few instances has it been considered wise to close a classroom. This latter action in each instance has been taken not because we have considered it the best procedure but because the principal or teacher has become unnecessarily apprehensive after the occurrence of a few cases of illness in children who normally attended the class in question but who, except in isolated instances, were not in school during the period of incubation.

#### **Keep Children in School.**

In this connection, I wish to emphasize the wisdom of keeping children in school rather than closing schools in the presence of communicable diseases in a community. School contact instances of infection are rare if the system of school medical inspection is at all adequate, and the presence of the children in the classroom each day, where they can be systematically observed for symptoms of approaching illness, offers a far greater degree of safety to the child and protection to other children than can be attained by allowing them to be in their homes or on the street in indiscriminate contact with other children.

By following the system outlined above during the six-year period since the organization of the Bureau of Child Hygiene, out of an average school population of 800,000 children in New York city, an average of five thousand, or less than 1 per cent, have been necessarily excluded from school each year because of the presence of a general constitutional contagious disease.

Such control may be exercised in any community, and the school, instead of being the focus for the dissemination of communicable diseases, may become, because of its very adaptability to control, one of the most valuable methods we have of limiting the spread of communicable diseases in any community.



## REORGANIZATION OF MUNICIPAL NURSING IN LOS ANGELES.

Los Angeles was the first city in California to make an appropriation for the support of district nursing. This was in 1897, when an appropriation was made to cover the expense of district nursing under the supervision of the College Settlement Association.

In September, 1903, the city began the support of a school nurse, who was appointed by and worked under the supervision of the health commissioner, and was paid out of the health department funds.

In June, 1910, the first tuberculosis nurse was secured for the health department. This nurse was appointed by the health commissioner and worked under the joint supervision of the health department and the Tuberculosis Society. The welfare stations were later established and conducted by the health department.

The first milk station in Los Angeles was established by the Settlement Association and Bethlehem Institute, and was conducted by the College Settlement with the cooperation of the College of Medicine, University of California.

In 1913 the staff of nurses under the College Settlement had reached the number of six, and it was felt that the supervision of so many nurses was more than they cared to continue in the future. The city was then asked to take over this staff of nurses, and for the purpose of directing the work of these nurses, together with that of the nurses already in the employ of the health department, doing active work in the schools, tuberculosis, etc., a Bureau of Municipal Nursing was created, the commissioners of this bureau being appointed by the health commissioner.

From June, 1913, until the early part of 1916, the nursing commission supervised all the nursing activities for the health commissioner. This included the nursing of the tuberculous and indigent sick, work among the school children in the homes, prenatal, maternity and infant welfare work, as well as the management of six infant welfare clinics, together with four milk stations and the inspection of boarding homes for children and day nurseries.

### Organization Problem Acute.

The problem of organization became more and more acute for the nursing commission, and they felt the necessity of calling outside assistance to help them reorganize the nursing service in accordance with the latest and best methods. The commission made such recommendation to the health commissioner, who granted their request, and the services of Miss Mary E. Lent, of Baltimore, were secured to undertake this work for them, after sufficient appropriation had been granted by the city council.

This is the first attempt in the organization of municipal public health nursing to be undertaken in California.

As a result of Miss Lent's work, the city is divided into sixteen districts, to each of which an individual nurse is assigned and under whom the nursing of the indigent sick, the tuberculous, and work among school







children is conducted. These same nurses attend the tuberculosis clinics and come into touch constantly with all of the public health problems concerning the people of their district.

For the conservation of infant life, which includes maternity nursing and welfare nursing, the city has been divided into six districts, each of which is in charge of a nurse under the direct supervision of the chief nurse. These nurses are responsible for service in the infant welfare clinics and milk stations. The city has been divided into two districts for the inspection of institutions, boarding and nursing homes having custody of children, in each of which there is an inspector under the direction of the chief nurse. For the control of communicable diseases, the city is similarly divided into two districts, each of which is in charge of a nurse under the direct control of the chief nurse. The latter individual has been relieved of all routine relative to the keeping of records, etc., through the addition of an assistant chief nurse and clerical assistant to the staff, leaving the chief nurse entirely free to solve all administrative problems in the division of nursing.

Under the new arrangement, the health department nurses are relieved of all detailed work in the schools, excepting in those cases where communicable diseases are reported. The nurses of the board of education confine their services exclusively to the schools. Cases of communicable disease, and cases requiring follow-up work in the home, beyond three visits, and all cases in which school children are excluded from school are handled by the nurses of the health department.

#### Miss Lent's Report.

In her report to the health commissioner, Miss Lent states:

"This plan of uniting under the direct responsibility of a single nurse the tuberculosis, school, and district nursing is in conformity with the best experience of the most progressive health departments throughout the country. Its obvious advantages are that it brings constantly to the attention of each nurse all of the difficulties and needs of a family group instead of dividing responsibility for the family group among several independent and unrelated individuals. In brief, we have attempted to follow out the established principle that in public health nursing individuals must be considered in relation to the family groups of which they are a part. In other words, the real unit in our work is often the family rather than the individual case.

"This redistribution and regrouping of public health functions enables us to give proper attention and emphasis to needs that of necessity were formerly overlooked. A precise estimate of the increase in effectiveness due directly to this regrouping of the service is, of course, impossible. Even in the short period, however, during which the reorganization has been under way, definite results can be seen which indicate that there has been a very material increase in effectiveness. It does not seem extravagant to say that the reorganization itself has increased by 25 per cent the working power of our staff of 32 nurses. In the field of tuberculosis work alone, for example, there were formerly twelve nurses giving their time exclusively to tuberculosis service. Under the present organization



plan, nineteen nurses giving their attention to tuberculosis work as part of their general duties, are making approximately 50 per cent more visits than were made in corresponding months a year ago, and a similar increase in service other than tuberculosis nursing has been accomplished. The facts regarding the tuberculosis service are made clear by the following comparative summary:

**Tuberculosis Work.**

	Nov., 1915	Dec., 1915	Nov., 1916	Dec., 1916
Attendance at clinics-----	1,278	1,349	1,921	2,204
Visits to patients-----	805	809	1,125	1,226

Comparative data for other branches of the work will doubtless show a similar increase in service."



## TRAINING-SCHOOLS FOR NURSES.

In another year the state law governing the registration of nurses will be operated so as to require a high school education of all candidates for the R. N. This step appears to be the beginning of the end of the proprietary hospital without a clinic service as a training-school for nurses. There is no more excuse for the existence of the proprietary training-school for nurses than for the proprietary medical school. The latter has practically ceased to exist, while the former thrives. No one in his right senses would even dream of founding a school for the training of physicians, in which all of the information required by the students is to be "picked up" as best it can be by contact with private patients only, under the care of a large group of physicians whose methods may vary as widely as their competence, and with no clinics, open demonstrations, or opportunity to make a thorough-going examination. Yet we are attempting to turn out the "trained" nurse by this very process.

And why? Because the proprietary hospital can not, unless it caters to the rich only, make both ends meet and at the same time give reasonable service unless it can get almost all of its nursing done for nothing or at a very nominal cost. To accomplish this economic feat the board of trustees opens, in connection with the hospital, what it is pleased to call a training-school for nurses, and a set of requirements for admission is formulated demanding, as a rule, a high school education and certain age and character qualifications on the part of candidates for the course. Suddenly it is found that there are not enough "girls to do the work" and the entrance requirements go by the board, perhaps forever. Thus we have, in full swing, the mediocre or poor proprietary training-school.

The exploiting of the pupil nurse in the proprietary hospitals was carried to such a degree that a successful movement for the inclusion of these women under the provisions of the eight-hour law had its birth within the very walls of these institutions.

A superintendent of nurses who can not keep up the numerical strength of the nursing-staff will last but a short time. But rarely, perhaps once in a moonshine, does the board of trustees, usually largely medical in its make-up, realize that it owes a very deep obligation to the women who elect to become pupils of the school. These women are led to believe that they are to receive a training which will enable them, upon graduation, to become full-fledged nurses. Fortunately (for the graduates) these women are most often of such mediocre mentality and education, frequently but little above the servant in type, that they actually think they have gotten a complete and efficient training, and the interesting feature is that this view is shared by many physicians. So, from the date of their graduation they are kept as continuously busy as their sisters, the graduates of a properly equipped, well conducted school. And worse yet, they receive the same remuneration as the well-trained women from the best training-school in the country.

It is slowly, but nevertheless surely, dawning upon us that a training-school for nurses is essentially and first of all a *school*, and that proper equipment, material, and the employment of recognized pedagogic methods are just as necessary to teach women nursing as they are to develop engineers, chemists or other professionals.—*California State Journal of Medicine*.



## THE MARCH MEETING OF THE STATE BOARD OF HEALTH.

The regular monthly meeting of the State Board of Health was held in Sacramento on March 3, 1917. The following members were present: Drs. George E. Ebright, president; Fred F. Gundrum, Edward F. Glaser, Adelaide Brown, Robert A. Peers, and Wilbur A. Sawyer.

The board endorsed Senate Bill No. 599 providing for physical education in the schools.

The typhus fever regulations for railroads, effective October 7, 1916, for detention camps for newly arrived Mexican laborers and for the weekly delousing of all section camps employing Mexican peons, were abolished, as these precautions were no longer needed. The government had increased the precautions at the Mexican border and the disease had apparently been checked in California.

The action of the secretary in placing Siskiyou County under quarantine for rabies on February 23, 1917, was approved.

The following rule relative to the segregation and transportation of lepers was adopted:

No leper shall be transported, or encouraged to go from one county to another, or to a foreign country, without previous permission being obtained from the State Board of Health; and the escape of any leper from the isolation provided in accordance with section 2952 of the Political Code shall be reported at once to the State Board of Health.

The resignation of Dr. J. C. Geiger, assistant director of the Bureau of Communicable Diseases, was received and accepted to take effect on April 24, 1917, as requested by him.

Fifteen additional beds in the men's ward of the tuberculosis department of the San Francisco Hospital, having been inspected and found to meet the requirements of the board, were placed on the eligible list to receive the state tuberculosis subsidy.

Announcement was made that the statute providing for the payment of the state tuberculosis subsidy had been upheld as constitutional by the Third District Court of Appeal in its decision handed down March 1, 1917, in the test case of the County of Sacramento versus John S. Chambers, Controller.

Miss Anna C. Jammé, director of the Bureau of Registration of Nurses, was delegated to represent the board at the annual meeting of the American Nurses' Association in Philadelphia, April 25 to May 3, 1917.

Thirty-four Nurses' Training Schools were placed on the list of accredited schools.

Permits to supply water for domestic purposes were granted to the Bakersfield Water Company, and the North Sacramento Light and Water Company. A temporary permit was granted to the city of Pasadena to continue to dispose of sludge from its septic tank into the San Gabriel Wash.

After a hearing the board granted a temporary permit to the city of Stockton to discharge sewage into the San Joaquin River after screening through half-inch mesh screen and chlorinating the effluent.

Licenses were granted to three cold storage warehouses.

WILBUR A. SAWYER, Secretary.



## FEBRUARY REPORT OF PLAGUE SUPPRESSIVE MEASURES.

By C. L. WILLIAMS, Passed Assistant Surgeon, United States Public Health Service, in Charge Joint Federal and State Plague Suppressive Measures.

During the month of February, 1917, squirrel eradication operations consisted mainly in the use of carbon bisulphide. The heavy rains during this month left the ground in an ideal condition for the use of this material and extensive squirrel destruction was accomplished in several localities. Most important of these is the country territory near San Felipe in Santa Clara County. Here several large ranches commenced work simultaneously. Several drums of carbon bisulphide have already been used by them and to date unusually good results obtained. With the destruction of squirrels on these lands one of the worst spots in any of the infected counties will be practically eliminated. Efforts are now being made to have the same work done on the ranches occupying Pacheco Pass. The planting of a considerable prune orchard in the mouth of the pass has given the work of squirrel eradication quite an impetus.

The principal obstacle in the way of squirrel eradication at present is the lack of sufficient funds with which to do forced work on the property of delinquents. There are on hand at present several localities where a salutary effect would be produced by the state undertaking forced work on lands of one or two of the worst offenders. It is hoped also that the present legislature will supply a simpler method of collecting money expended on this type of work than the present cumbersome one, in which the county boards of supervisors are the intermediaries. Below is a tabulated account of squirrel eradication measures during the month:

Number of inspections and reinspections of lands-----	1,805
Acres inspected and reinspected-----	657,425
Acres treated with poisoned grain-----	190,537
Acres treated with waste ball method-----	47,124
Number of holes treated-----	239,815
Number of acres treated with destructors-----	785
Number of acres treated with hose and funnel-----	6,833
Number of acres treated with distillate and sulphur-----	12



## REPORT OF THE BUREAU OF ADMINISTRATION FOR FEBRUARY, 1917.

W. A. SAWYER, M.D., Director.

### MORBIDITY REPORTS.

GUY P. JONES, Morbidity Statistician.

#### Smallpox.

Smallpox has increased considerably during the month of February, there having been 64 cases reported as against 40 for January. Thirty-eight of these cases occurred in San Francisco, 12 in Alameda County, seven in Solano County and the remainder were scattered throughout the state. Fifty of these cases had never been vaccinated, ten had been vaccinated more than seven years preceding attack and four had been vaccinated within seven years preceding attack.

#### Typhoid Fever.

Typhoid fever showed a considerable decrease during February, there having been but 57 cases reported as against 134 for January. Twenty of these cases occurred in San Francisco, 14 in Los Angeles, and the remainder were widely scattered throughout the state.

#### Epidemic Cerebrospinal Meningitis.

Four cases of this disease were reported during February. Nine cases were reported during January.

#### Poliomyelitis.

There were but two cases of poliomyelitis reported during February. These cases occurred in Merced County and Santa Barbara County. Seven cases of this disease were reported during January.

#### Malaria.

There were but 17 cases of malaria reported during the month of February, as against 15 cases reported during January.

#### Scarlet Fever.

There was a slight increase in the number of scarlet fever cases reported during the month. Six hundred and twenty-two cases were reported, as against 606 for the month of January.

#### Measles.

Measles showed a marked increase during February, there having been 3,305 cases reported as against 1,606 reported during January. Measles is sweeping over the state in one great wave. Most of the cases reported are in the larger cities. The universities and high schools have not escaped, many cases having been reported from such institutions.



**Diphtheria.**

Diphtheria showed a marked increase during the month, as 788 cases were reported as against 354 reported during January.

**Venereal Diseases.**

There was a slight decrease in the number of cases of syphilis and gonorrhea reported during February, there having been 110 cases of gonorrhea and 123 cases of syphilis reported.

**Leprosy.**

Three cases of leprosy were reported during February.

**Tuberculosis.**

Five hundred and sixty-three cases of tuberculosis were reported during February.

The following table shows the number of cases of communicable diseases reported during the month:

Smallpox -----	64	Erysipelas -----	49
Typhoid fever -----	57	Mumps -----	898
Epidemic cerebrospinal meningitis--	4	Pneumonia -----	238
Poliomyelitis -----	2	Tuberculosis -----	563
Malaria -----	17	Whooping cough -----	133
Scarlet fever -----	622	German measles -----	23
Measles -----	3,305	Ophthalmia neonatorum -----	4
Diphtheria -----	788	Leprosy -----	3
Gonorrhea -----	110	Tetanus -----	2
Syphilis -----	123	Trachoma -----	9
Chickenpox -----	788	Typhoid fever -----	57

**SANITARY INSPECTIONS.**

EDWARD T. ROSS, State Sanitary Inspector.

During the month of February a sanitary survey was made of food supply places in Oakland, Alameda, Berkeley and Richmond. In Berkeley and Richmond the food supply places with few exceptions were satisfactory, being screened and in clean condition. In Oakland all retail places are screened or protected by glass. The wholesale markets are located in a new produce zone. All of the buildings are constructed of brick and concrete and with few exceptions are in excellent condition. Efforts are being made by the health officials to bring all food supply places up to the standard and many improvements have been made in the past year. The food supply places in Alameda in general were found in clean condition, but practically all fruit and vegetable markets are entirely open in front, exposing fruits to flies, dust, etc. Strenuous efforts on the part of the health officer and his assistants are being made to remedy this condition. During this survey 27 groceries, 39 meat markets, 67 fruit and vegetable markets, 41 restaurants, 22 bakeries, 27 ice cream and candy parlors, 8 creameries and a large number of miscellaneous premises were visited.

Two towns were visited because of complaints relative to defective sewers.



A general sanitary survey was made of a number of camps or farms on Grand and Andrus islands and in the vicinity of Walnut Grove. A number of canneries were also visited in this vicinity.

An investigation of the rabies situation in Siskiyou County was started on the last day of the month.

Summary of Operations.

Cities and towns visited	7
Groceries	27
Meat markets	39
Fruit and vegetable markets	67
Restaurants	41
Bakeries	22
Ice cream and candy parlors	27
Creameries	8
Canneries	6
Sewerage systems	2
Water supplies	1
Camps or farms (app)	30
Miscellaneous premises visited	60
Investigations (rabies) started	1
Total	338



## REPORT OF THE BUREAU OF COMMUNICABLE DISEASES FOR FEBRUARY, 1917.

By JAMES G. CUMMING, M.D., Director.

### A Resume of the Typhus Situation in California.

Early in the spring of 1916, typhus fever began to appear in this state among newly arriving Mexican immigrants employed in the section camps of the various railroads. From June 1 to October 1, 1916, there occurred in California twenty-four cases of typhus, with one fatality. Five of the cases were secondary, and all, with the exception of two, were among railroad employees. During that period the State Board of Health instituted quarantine restrictions and delousing procedures in all reported cases and their contacts, but took no further restrictive measures, as it was not deemed necessary at that time to institute state-wide regulations for the control of the disease.

During September, 1916, however, owing to the increasing number of cases in five southern counties of California, the State Board of Health viewed with apprehension the liability of the extension of typhus fever from these immigrants to the larger cities where it might become endemic. It was decided that control measures should be instituted to prevent the disease from becoming a menace to the California centers of population. The expediency of this procedure is shown by a study of the disease in Eastern cities where endemic typhus has existed since the early eighties.

It was realized that to prevent the endemicity of typhus fever in California it would be necessary to determine on a definite mode of procedure for its immediate control. Naturally, methods employed would depend upon conditions peculiar to the state. As already noted, most of the cases were primary; they occurred chiefly among recently imported Mexican railroad section laborers, and there had been five secondary cases. The appearance of these secondary cases made it evident that the transmitting agent of the disease must prevail in the labor camps. An investigation of these camps was undertaken and it was ascertained that approximately 60 per cent of the occupants gave evidence of the head-louse and 35 per cent were infested with body-lice—the latter are recognized as the transmitting agent of typhus virus.

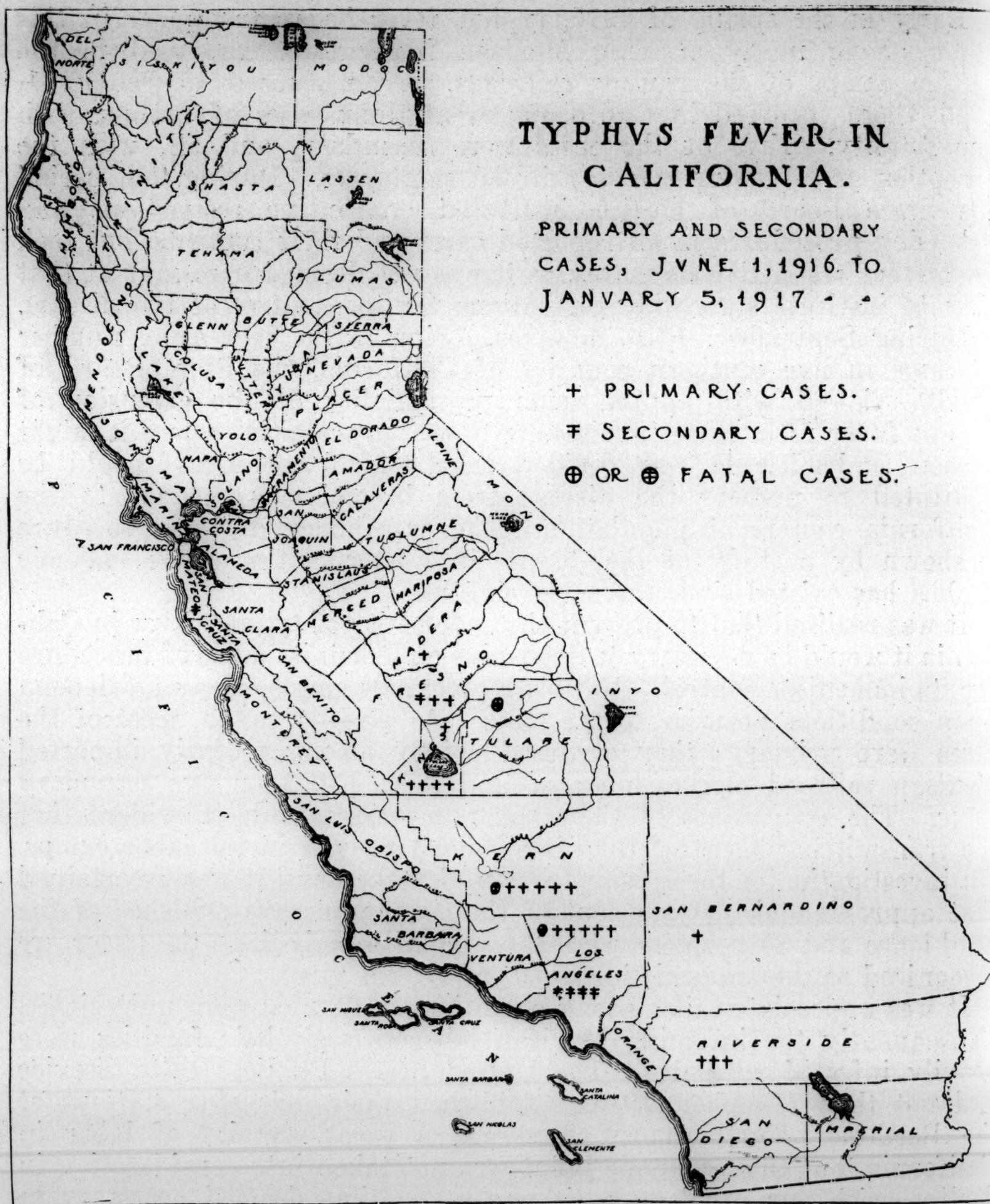
It was appreciated that living conditions in Mexico were unhygienic. Consequently the incoming Mexican laborers and their families were heavily infested with lice. The United States Public Health Service had not then (October, 1916) established their delousing stations at the Border. Furthermore, there was a great scarcity of labor in California, but this economic point was not taken into consideration in dealing with our problem, as it was at no time deemed necessary to forbid Mexican immigration into the state.

After the field investigation of the railroad camps, the typhus situation, as influenced by these section camp conditions, was presented to the railroads and they collaborated in carrying out special typhus control regulations which were enacted by the State Board of Health. These regulations included: first, the enforcement of louse-eradivative measures in the section camps; second, the establishment of observation



camps; third, the reporting to this bureau of all new arrivals from Mexico. The regulations provided for a weekly bath of all camp occupants with kerosene and warm water, to be followed by a complete change of clothing; these measures to be enforced and supervised by the section foreman.

The railroads made this matter not merely one of expediency, but of educative value as well, by printing the regulations in Spanish and



posting them in each section camp. In the observation camps all newly arriving Mexicans were kept for a period of fifteen days—the incubation period of typhus fever. During the first month there were a number of escapes from these camps; whereupon the railroad companies provided guards, thus preventing the scattering of possible typhus contacts. From October 15, 1916, to March 1, 1917, a total of



2,355 men were detained and deloused in the railroad observation camps. The several importing companies furnished this bureau, from El Paso, the name of each immigrant and the observation camp to which he was sent. The railroads in turn reported the date of his arrival and release from this camp.

The purposes of these observation camps were two: first, to centralize all possible imported typhus cases; second, to provide a place where the railroads' Mexican immigrants could be deloused before being distributed along the lines of the railroad traffic. It will be noted that these observation camps, established October, 1916, have served the same purpose as do now the federal delousing stations which were put into operation January 1, 1917.

It should be appreciated that the several railroads within the state at once lent their hearty cooperation in carrying out the delousing regulations in their section camps, and, in addition, each railroad depending upon imported labor maintained an observation camp, although such maintenance was a difficult problem from an operative standpoint. In considering the advisability of modifying or abolishing the special regulations, it was considered necessary to determine whether or not they had served their purpose—that of minimizing louse-infestation in the section camps. Were these section camps free from lice the observation camps would no longer be necessary, inasmuch as the United States Public Health Service put into active operation about January 1, 1917, their delousing stations on the Border. Furthermore, no cases of typhus have occurred in railroad section camps since October 25, 1916.

About March 1, 1917, there were inspected 32 section camps, occupied by 824 individuals. Among these, less than 2 per cent showed evidence of head-lice, while no body-lice were found. There were 86 men in the observation camps, and the remarkable cleanliness of some very recent arrivals, as contrasted with those imported prior to January 1, 1917, evidenced the value of the efficient delousing work now done at the Border by the United States Public Health Service.

In comparing the typhus situation before and after this preventive work was undertaken, the records show that from June 1, 1916, to October 1, 1916, four months, there were 24 cases; while from October 1, 1916, to March 1, 1917, six months, there have been only seven cases. Among the 31 cases there were three deaths, giving a mortality of 9.7 per cent. In October, 1916, there was louse-infestation to the extent of 35 per cent for *pediculus vestimenti* and 60 per cent for *pediculus capitis*; the March 1, 1917, inspection showed no body-lice and only 1 per cent head-lice.

#### Conclusions.

First—Louse-infestation in railroad section camps is now minimized.

Second—All the railroads have signified their intention to continue their supervision of camp hygiene.

Third—The federal delousing work at the Border now makes no longer necessary the maintenance of our observation camps as delousing stations.

Fourth—Imported sporadic cases of typhus may occur, but, under present conditions, there should be no secondary cases and it is to be



expected that the disease will not become endemic in our large centers of population.

Fifth—The special typhus regulations for railroads have accomplished their purpose and therefore would seem to be no longer necessary.

After consideration of the present typhus situation the State Board of Health, at its March meeting, passed the following resolution:

*Resolved*, That the typhus fever regulations for the railroads, published on pages 203-204 of the October, 1916, Monthly Bulletin of the California State Board of Health, be abolished.

### Division of Biological Examinations.

#### *Summary of Examinations Made in the California State Hygienic Laboratory During the Month of February, 1917.*

Condition suspected	Positive	Negative	Inconclusive	Total
<b>Main laboratory at Berkeley:</b>				
Anthrax -----		4		4
Diphtheria (diagnosis) -----	9	64	10	83
Diphtheria (release) -----	16	18		34
Diphtheria (school investigations)*-----	70	288	3	361
Gonococcus infection -----	7	34		41
Hookworm -----	17	207		224
Malaria -----		1		1
Rabies -----	8	8		16
Syphilis (Wassermann test) -----	19	186	5	210
Tuberculosis (sputum examinations)---	8	20	1	29
Typhoid (Widal test)-----	3	25		28
Typhoid (excreta) -----		45		45
Typhoid (blood culture)-----		1		1
Miscellaneous -----	2	5	1	8
				1,085
<b>Northern branch at Sacramento:</b>				
Diphtheria (diagnosis) -----	2	23		25
Diphtheria (release) -----		7		7
Malaria -----		9		9
Tuberculosis (sputum examinations)---	4	16		20
Typhoid (Widal test)-----	1	11		12
				73
<b>San Joaquin Valley branch at Fresno:</b>				
Diphtheria (diagnosis) -----	4	22		26
Diphtheria (release) -----	7	16		23
Tuberculosis (sputum examinations)---	1	11	1	13
Typhoid (Widal test)-----		2		2
				64
<b>Southern branch at Los Angeles:</b>				
Diphtheria (diagnosis) -----	9	43		52
Diphtheria (release) -----	11	5		16
Gonococcus infection -----		1		1
Malaria -----	1			1
Tuberculosis (sputum examinations)---	6	14		20
Typhoid (Widal test)-----	3	15		18
				108
<b>Total number of examinations</b> -----				<b>1,330</b>

\*Cultures taken from school children at Monterey (198), National City (113), Stockton (50).



### Division of Epidemiological Investigations.

#### *Epidemiological Investigations and Other Special Investigations During February, 1917.*

##### Main laboratory at Berkeley:

An investigation of a case of poliomyelitis at Redding.

A survey of health problems at Stockton.

A case of suspected poliomyelitis at Modesto.

An investigation of scarlet fever at San Leandro.

Continuation of hookworm investigation.

Two inspections of railroad section camps preliminary to the abolition of special typhus regulations.

An investigation of typhoid fever at Bakersfield.

Total number of investigations..... 8

### Division of Preventive Therapeutics.

#### *Pasteur Treatment for the Prevention of Rabies by the State Hygienic Laboratory During the Month of February, 1917.*

	Treatment commenced	Treatment completed
Main laboratory at Berkeley.....	1	1
Northern branch at Sacramento.....	0	0
San Joaquin Valley branch at Fresno.....	0	0
Southern branch at Los Angeles.....	0	0
Laboratory of Sacramento Board of Health, by deputized bacteriologist .....	0	0
Laboratory of San Francisco Board of Health, by deputized bacteriologist .....	0	0
Laboratory of Los Angeles Board of Health, by deputized bacteriologist .....	0	0
Laboratory of San Diego City Board of Health, by deputized bacteriologist .....	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist .....	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist.....	0	0
	1	1

### Distribution of Laboratory Products.

#### *Vaccine for the Prevention of Typhoid Fever Issued by the State Hygienic Laboratory During the Month of February, 1917.*

Number of physicians to whom vaccine was sent..... 9

Number of complete treatments sent..... 212

#### *Ophthalmia Neonatorum Prophylactic Outfits Distributed During the Month of February, 1917.*

Number of outfits, containing two ampoules each, issued..... 268

### Public Health Instruction.

#### *Participation in Instruction in Public Health During February, 1917.*

##### Main laboratory at Berkeley:

Bacteriological instruction outfits sent out..... 1

Bacteriological instruction outfits in use..... 32

Lectures by the Director..... 2

Lectures by the Assistant Director..... 3

Lectures by the Assistant Epidemiologist..... 1



## REPORT OF THE BUREAU OF VITAL STATISTICS.

GEORGE D. LESLIE, Director.

## State Death Totals: 1906 to 1916.

The following table presents a summary of death totals for California, together with the increase (or decrease) and the rate per 1,000 population in the eleven years 1906 to 1916, inclusive:

Year	Deaths	Increase, number	Increase, per cent	Rate per 1,000 population
1916 -----	39,860	834	2.1	13.5
1915 -----	39,026	1,489	4.0	13.7
1914 -----	37,537	*1,062	*2.8	13.6
1913 -----	38,599	1,890	5.1	14.4
1912 -----	36,709	2,697	7.9	14.2
1911 -----	34,012	1,614	5.0	13.7
1910 -----	32,398	1,413	4.6	13.5
1909 -----	30,985	*302	*1.0	13.4
1908 -----	31,287	192	0.6	14.1
1907 -----	31,095	1,792	6.1	14.6
1906 -----	29,303	-----	-----	14.4

\*Decrease.

The death total, exclusive of stillbirths, rose from 29,303 for 1906 to 31,095 for 1907 and to only 31,287 for 1908, falling back to 30,985 for 1909 but then rising again to 32,398 for 1910, 34,012 for 1911, 36,709 for 1912, and 38,599 for 1913, falling a second time to 37,537 for 1914 and finally rising once more to 39,026 for 1915, and to 39,860 for 1916. The increase of 1,792, or 6.1 per cent, for 1906 to 1907, was followed by a gain of only 192, or 0.6 per cent, for 1907 to 1908 and a loss of 302, or 1.0 per cent, for 1908 to 1909, the death total for 1909 being thus less by 110 than that for 1907. However, the increase of 1,413, or 4.6 per cent for 1909 to 1910, was succeeded by the still greater gains of 1,614, or 5.0 per cent, for 1910 to 1911, of 2,697, or 7.9 per cent, for 1911 to 1912, and of 1,890, or 5.1 per cent, for 1912 to 1913. The decrease of 1,062, or 2.8 per cent, for 1913 to 1914 was followed by the greater increase of 1,489, or 4.0 per cent, for 1914 to 1915, and later by the small increase of 834, or 2.1 per cent, for 1915 to 1916.

With the increase in the death total for 1916 one of the smallest shown in the whole eleven years, the death rate for 1916 is likewise among the lowest appearing in the entire period, being just the same as for 1910 and surpassing only the slightly lower rate for 1909. In fact, the death rates of 13.5 for 1916, 13.7 for 1915, and 13.6 for 1914 are about the same as the successive rates of 13.4, 13.5 and 13.7 for 1909 to 1911, inclusive. The rates for the three years last past are somewhat less than the rates for 1912 and 1913 or for the earlier period, 1906 to 1908.

## Births, Deaths and Marriages for January.\*

*State Totals and Annual Rates.* The following table shows for California as a whole, the birth, death and marriage totals for the current and preceding months in comparison with those for the corresponding months of last year, as well as the annual rates per 1,000



population represented by the totals for the current and preceding months. The rates are based on an estimated midyear population of 3,037,968 for California in 1917, the estimate having been made by the Census Bureau method with slight modifications.

*Birth, Death and Marriage Totals, with Annual Rates per 1,000 Population, for Current and Preceding Months, for California: January.*

Month	Monthly total		Annual rate per 1,000 population 1917
	1917	1916	
January—			
Births -----	*3,659	4,158	14.2
Deaths -----	†4,160	3,942	16.1
Marriages -----	2,371	2,225	9.2
December—			
Births -----	1916 4,453	1915 4,362	1916 17.8
Deaths -----	4,316	3,993	17.3
Marriages -----	3,124	2,667	12.5

\*Exclusive of 423 delayed returns for births occurring in 1916.

†Exclusive of 85 delayed returns for deaths occurring in 1916.

The birth and death totals given for January, 1917, are exclusive of delayed returns for births and deaths actually occurring in 1916. There are more delayed returns for births than for deaths because of the greater difficulty in securing the immediate filing of birth certificates by physicians and midwives than of death certificates by undertakers, the prompt filing of death certificates being facilitated by the fact that such filing is necessary for obtaining the burial or removal permit required by law as prerequisite authority for any disposition of a dead body.

The monthly totals for January, 1917, exceed those for January of last year, though in less degree than the totals for December, 1916, surpassed those of the preceding December. The birth total, however, was not far from the same for both the current and preceding months as for corresponding months of a year ago, respectively.

*Length of Residence.* The length of residence in California for the 4,160 decedents in January was as follows: Under 1 year, 140, or 3.4 per cent; 1 to 9 years, 711, or 17.1 per cent; 10 years and over, 1,960, or 47.1 per cent; life, 1,009, or 24.2 per cent; and unknown, 340, or 8.2 per cent.

*County Marriage Totals.* The counties showing the highest marriage totals for the month were as follows: Los Angeles, 493; San Francisco, 459; Alameda, 225; Orange, 115; Fresno, 104; Sacramento, 99; Santa Clara, 81; San Joaquin, 77; and San Bernardino and San Diego, each 70. The aggregate for San Francisco and the other bay counties was 786 against 608 for Los Angeles and Orange counties together.

\*NOTE.—The present report is for the month preceding but two. This order must be followed, because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the next preceding month is completed.



*County Birth and Death Totals.* Exclusive of stillbirths in both cases, the birth and death totals for the month were as follows for the leading counties, arranged in decreasing order of birth registration:

County	Births*	Deaths*	County	Births*	Deaths*
Los Angeles -----	944	1,103	San Joaquin -----	73	136
San Francisco -----	491	729	Tulare -----	72	57
Alameda -----	323	360	Sonoma -----	70	72
Fresno -----	185	132	Orange -----	66	49
Sacramento -----	142	155	Kern -----	60	51
Santa Clara -----	125	166	Santa Barbara -----	49	42
San Diego -----	120	153	Stanislaus -----	47	39
San Bernardino -----	108	134	Ventura -----	44	18

\*Exclusive of delayed returns for events occurring in 1916, the delayed reports of births being much more numerous than those of deaths.

*City Birth and Death Totals.* Birth and death totals, exclusive of stillbirths, are presented similarly for the principal California cities below:

City	Births*	Deaths*	City	Births*	Deaths*
Los Angeles -----	640	713	San Jose -----	45	45
San Francisco -----	491	729	Stockton -----	45	86
Oakland -----	206	237	Pasadena -----	41	63
Sacramento -----	106	130	Bakersfield -----	39	39
San Diego -----	84	116	Long Beach -----	37	63
Fresno -----	61	67	Alameda -----	34	36
Berkeley -----	48	34	San Bernardino -----	34	44

\*Exclusive of delayed returns for events occurring in 1916, the delayed reports of births being much more numerous than those of deaths.

*Geographic Divisions (Infant Mortality).* The following table presents data for geographic divisions to show in comparison with total births and deaths the number of deaths under one year as some indication of conditions with reference to infant mortality in different portions of the state:

*Total Births and Deaths, with Deaths Under One Year, for Geographic Divisions: January.*

Geographic division	Total live births*	Total deaths, all ages*	Deaths under 1 year*
The state -----	3,659	4,160	383
Northern California—			
Coast counties -----	147	195	9
Interior counties -----	197	183	21
Central California—			
San Francisco -----	491	729	49
Alameda County -----	323	360	45
Other bay counties -----	105	104	13
Coast counties -----	219	268	16
Interior counties -----	770	720	99
Southern California—			
Los Angeles city -----	640	713	59
Rest of Los Angeles County -----	304	390	24
Other counties -----	463	498	48

\*Exclusive of delayed returns for events occurring in 1916, the delayed reports of births being much more numerous than those of deaths.



*Causes of Death.* The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

*Deaths From Certain Principal Causes, With Proportion per 1,000—Total Deaths for Current and Preceding Month for California: January.*

Cause of death	Deaths January	Proportion per 1,000	
		January	Dec., 1916
All causes -----	4,160	1,000.0	1,000.0
Typhoid fever -----	25	6.0	4.0
Malarial fever -----			0.5
Smallpox -----	1	0.2	0.2
Measles -----	5	1.2	0.2
Scarlet fever -----	6	1.5	1.4
Whooping-cough -----	7	1.7	2.8
Diphtheria and croup -----	17	4.1	6.0
Influenza -----	93	22.4	19.9
Other epidemic diseases -----	11	2.7	2.3
Tuberculosis of lungs -----	460	110.6	111.7
Tuberculosis of other organs -----	65	15.6	11.1
Cancer -----	224	53.8	58.6
Other general diseases -----	151	36.3	40.1
Meningitis -----	28	6.7	4.6
Other diseases of nervous system -----	280	67.3	67.0
Diseases of circulatory system -----	831	199.7	192.1
Pneumonia and broncho-pneumonia -----	619	148.8	158.0
Other diseases of respiratory system -----	121	29.1	23.6
Diarrhea and enteritis, under 2 years -----	38	9.1	12.8
Diarrhea and enteritis, 2 years and over -----	18	4.3	3.3
Other diseases of digestive system -----	180	43.3	41.7
Bright's disease and nephritis -----	337	81.0	80.4
Childbirth -----	38	9.1	7.2
Diseases of early infancy -----	136	32.7	36.8
Suicide -----	79	19.0	16.0
Other violence -----	244	58.7	69.0
All other causes -----	146	35.1	28.7

In January there were 831 deaths, or 20.0 per cent of all, from diseases of the circulatory system; 740, or 17.8 per cent, from diseases of the respiratory system (pneumonia, etc.); and 525, or 12.6 per cent, from various forms of tuberculosis. Heart disease and pneumonia were both ahead of tuberculosis for January as for December, the death total for pneumonia having risen in these winter months as usual.

Other notable causes of death for the month were as follows: Bright's disease and nephritis, 337; violence, 323; diseases of the nervous system, 308; diseases of digestive system, 236; cancer, 224; and epidemic diseases, 165.

The deaths from epidemic diseases were as follows: Influenza, 93; typhoid fever, 25; diphtheria, 17; whooping-cough, 7; scarlet fever, 6; measles, 5; and all other epidemic diseases (including a death from smallpox), 12.



The deaths from the three leading epidemic diseases reported for the month were distributed by counties as follows:

Influenza		Typhoid fever		Diphtheria	
Alameda	2	Alameda	1	Fresno	1
Amador	1	Amador	1	Los Angeles	2
Butte	6	El Dorado	1	Mendocino	1
Colusa	2	Humboldt	1	Monterey	1
Contra Costa	1	Imperial	2	San Diego	2
Del Norte	1	Inyo	1	San Francisco	8
El Dorado	1	Kern	1	Santa Barbara	1
Fresno	6	Los Angeles	5	Santa Clara	1
Humboldt	1	Sacramento	3		
Imperial	1	San Diego	1	Total	17
Kern	1	San Francisco	1		
Lake	1	San Joaquin	2		
Los Angeles	24	San Mateo	1		
Merced	1	Santa Barbara	1		
Monterey	1	Santa Clara	1		
Nevada	2	Solano	1		
Orange	2	Stanislaus	1		
Sacramento	2				
San Bernardino	4	Total	25		
San Diego	3				
San Francisco	2				
San Joaquin	4				
San Luis Obispo	1				
Santa Barbara	3				
Santa Clara	7				
Shasta	3				
Sierra	1				
Siskiyou	1				
Sonoma	1				
Stanislaus	1				
Sutter	1				
Tulare	1				
Tuolumne	2				
Yolo	1				
Yuba	1				
Total	93				

*Sex, Race and Nativity.* The proportion of the sexes among the 4,160 decedents in January was: Male, 2,500, or 60.1 per cent; and female, 1,660, or 39.9 per cent.

The race distribution of decedents was: White, 3,923, or 94.3 per cent of all; Japanese, 96; Chinese, 73; Negro, 57; and Indian, 11.

The 3,923 white decedents were classified by nativity as follows: California, 911, or 23.2 per cent; other states 1,583, or 40.4 per cent; foreign countries, 1,326, or 33.8 per cent; and unknown, 103, or 2.6 per cent.

*Age Periods.* The 4,160 deaths reported for the month were distributed by age periods as follows: Under 1 year, 383, or 9.2 per cent; 1 to 4 years, 148, or 3.6 per cent; 5 to 9 years, 53, or 1.3 per cent; 10 to 19 years, 106, or 2.5 per cent; 20 to 29 years, 277, or 6.7 per cent; 30 to 39 years, 375, or 9.0 per cent; 40 to 49 years, 442, or 10.6 per cent; 50 to 59 years, 545, or 13.1 per cent; 60 to 69 years, 646, or 15.5 per cent; and 70 years and over, 1,185, or 28.5 per cent.

*Infant Mortality.* The 383 deaths under one year of age were distributed by age in months as follows: Under 1 month, 191, or 49.9 per cent; 1 to 2 months, 76, or 19.8 per cent; 3 to 5 months, 51, or 13.3 per cent; and 6 to 11 months, 65, or 17.0 per cent. Thus, nearly half the deaths at under 1 year of age occurred in the very first month of life.

The 383 deaths under 1 year of age, in comparison with the 3,659 live births reported for the month, represent an infant mortality ratio of 105 per 1,000 births.



REPORT OF THE BUREAU OF SANITARY ENGINEERING  
FOR FEBRUARY, 1917.

By C. G. GILLESPIE, C.E., Director.

A conference with the winery interests of the state on February 20th resulted in the decision of the board to issue in the near future a report on the disposal of winery wastes, to be prepared jointly by Mr. Charles S. Ash, consulting chemist for the California Wine Association, Mr. Frank Bachmann, chemist, and C. G. Gillespie, director of the Bureau of Sanitary Engineering. It was apparent from the discussion at the conference that most of the men having to do with the disposal of winery waste have little more scientific comprehension of the principles of good disposal of this waste than do most municipal officials having to do with the disposal of town sewage and refuse. It is hoped that enlightenment on the subject will result in greatly improved living conditions in the neighborhood of wineries.

The city of Eureka has begun the monthly submission to the bureau of a most detailed and comprehensive report on the operation of its water plant, filters and chlorination. Eureka is the first California city to make such report to the State Board of Health. This enterprising water department is also establishing an up-to-date laboratory in its filter plant for the bacteriological control of its purification plant. The citizens of Eureka have reason to be proud of their water department. It has made the very best of an out-of-date water plant with the most difficult water to handle of any surface water in the state.

## SEWAGE DISPOSAL.

Applications for Permits Filed—None.

## Permits Granted.

*Pasadena:* To continue the disposal of sludge from its septic tank and excess sewage from its sewer farm into the San Gabriel wash opposite the farm, with the provisions that:

1. Endeavor will be made to release sludge only when the runoff is sufficient to clean out the channel.
2. All operations about the farm and tank will be conducted with a view to creating the minimum amount of nuisance.

## Plans Filed.

*San Diego:* Imhoff tank for Ocean Beach, to discharge into False Bay.

*Paso Robles:* Imhoff tank, to discharge into Salinas River.

*Los Angeles (Los Angeles County Farm):* Sewer system and Imhoff tank.

*Near Livermore (Alameda County Tuberculosis Hospital):* Sketches of Imhoff tank and sprinkling filter.

*Sanger:* Profiles and cost estimates of outfall extensions, preparatory to extensive modification in disposal and possibly treatment.



## Investigations, Inspections and Reports.

*San Pablo (Bates, Borland and Ayers Construction Company Camp):* February 7th. Contamination of San Pablo Creek by the camp was investigated and recommendations for the construction of a large septic tank and hypochlorite plant given. Work on the improvement began in the afternoon.

*Madera:* February 11th. Fresno River was inspected in connection with a possible sewer outlet from the city therein. The river is a dry stream during most of the year but during the winter apparently has considerable flow of reasonably safe water. The city was informed that under the circumstances treatment works yielding a stable effluent, to be chlorinated during periods of flow in the river, would be required. An Imhoff tank—sprinkling filter—chlorinator combination was advised.

*Exeter:* February 13th and 14th. The city Imhoff tank was tested and sewer farm inspected. Excellent clarification is being obtained by the tank in spite of too little proper attention. Unfortunately the sludge bed is in a deep undrainable excavation and drying of sludge occurs by evaporation and not by seepage. This element is unsatisfactory. The sewer farm is most successful. An area of 20 acres of light sandy loam, in alfalfa, is amply sufficient for good disposition of the sewage of a population of 1,200 throughout the entire year. This is one of the most successful sewer farms inspected to date. Sewage is nowhere allowed to pond.

*Lindsay:* February 14th. The city has made several improvements to its farm, following adverse criticism by this bureau in 1916. As is a common failing in sewer farms, however, the area in use to receive sewage is still entirely inadequate. But three acres of quite heavy soil are in use for a population of about 2,000. The sewage is pounding badly. The city owns 50 acres and could easily utilize about 15 acres by gravity. Land disposal is practiced the entire year. The septic tank is clarifying poorly, a common fault with the single story type of tank.

*Kingsburg:* February 14th. The sewer farm is not handled to best advantage, only a portion of the available ten or so acres being utilized, and that by flooding. The result is the killing of the alfalfa and also nuisance. The septic tank, cleaned during the summer of 1916, is already failing to clarify the sewage of settleable solids.

*Calwa:* February 13th. Additional sampling was performed in connection with the contact bed and chlorination processes. Analyses indicate stability in the raw sewage, due to the high dilution for the purpose of flushing and preventing putrefaction in the flow-chamber of the Imhoff tank. The dilution appears to be about one to ten. Accordingly, the contact bed has no work to perform. Chlorination has been found continuously effective in numerous samples collected over the past year. All this treatment is required by the board as conditional to discharge of the sewage into "sewage wells."

*Sanger:* February 14th. The Castner tank and sewage disposal here were tested and inspected in connection with complaints of nuisance at the outlet. The sewer system was installed in 1914-15. Original plans by Mr. Chris. P. Jensen intended the use of an Imhoff tank. The city officials changed this plan to a Castner septic tank, the effluent



being discharged into a stagnant slough in the bottom lands of the Kings River. As might have been expected, nuisance has resulted. Aside from the expedient of a several thousand-dollar outlay for an extension of the outfall to farmed lands, the only alternative is disposal into the Kings River. This will probably necessitate the construction of works for the complete treatment of sewage, including an Imhoff tank, sprinkling filter and, in all probability, chlorination. The proposition is still under advisement by the city and this bureau.

*Fowler:* February 15th. The Imhoff tank was tested and sewer farm inspected. The tank is grossly neglected. Nevertheless, clarification is quite satisfactory and apparently no nuisance is caused thereby. Disposal of the effluent is onto private lands totaling 40 to 75 acres and heretofore planted to alfalfa. At the present time the sewage is running to waste on a two-acre tract of pasture land.

*Reedley:* February 14th. The city has made additional improvement to the dosing tank of the sprinkling filter. Distribution is now excellent, varying not over 20 per cent from the average over any part of the bed.

*Merced Falls:* The Yosemite Lumber Company have been given notice that disposal of the effluent of the community septic tank into the Merced River must cease. Inspection was made for the purpose of outlining sprinkling filter works.

*Shore towns of Contra Costa County:* February 8th, 9th and 10th. An inspection trip was made to the various communities along Carquinez Strait and San Pablo Bay, including Martinez, Port Costa, Crockett, Valona, Selby, Tormey, Oleum, Rodeo, Hercules and Pinole. It is the general practice to sewer directly to these bodies of water without preliminary treatment. This is the simplest solution of the outlet problem and it is permissible since the water below can not be used for drinking and there is no danger from bathing beach pollution. Shore nuisances seem to have been generally prevented by sufficiently extending the outfalls.

*Arequipa Sanitorium, Fairfax:* February 19th. Disposal of sewage in cesspools has proven impracticable. Preliminary clarification, followed by surface irrigation, will probably be undertaken.

*Maryland Cafe, Sacramento:* February 10th. Efforts to dispose of sewage in cesspools and in deep wells have failed. Preliminary clarification and final disposal in a system of seepage tile will be undertaken.

*Hammond, Mt. Whitney Power Company:* February 14th. Visited for the purpose of instructing company in the building of a septic tank and subsurface disposal system in order that household wastes at the power plant might be kept out of the Kaweah River and tributaries.

## WATER SUPPLIES.

### Applications for Permits Filed.

*East Bakersfield (Bakersfield Water Co.):* To supply water from seven wells to East Bakersfield.

*Petaluma (Petaluma Power and Water Co.):* To supply water from Lynch, Copeland, Adobe and Inman Creeks and Lawler Reservoir, all in Sonoma Mountains.



*Sacramento (North Sacramento Light and Water Co.):* To continue to supply water to the inhabitants of North Sacramento from a well located in Block 17.

*Hayward (Hayward Water Company):* To continue to supply water to Hayward from artesian wells.

*Randsburg (Randsburg Water Company):* To continue to supply water to Randsburg, Johannesburg and surrounding district, from Squaw Springs and mountain wells.

*Hercules (Hercules Water Company):* To continue to supply water to Hercules, Pinole and outside points in Contra Costa County from San Pablo Wells and San Pablo Creek.

#### Permits Granted.

*Sacramento (North Sacramento Light and Water Co.):* To continue to supply water to the inhabitants of North Sacramento from a well in Block 17, on condition that no alterations or additions be made to the supply without the approval of the State Board of Health.

*East Bakersfield (Bakersfield Water Company):* To continue to supply water to East Bakersfield from its existing plants.

*Calwa:* Tests having indicated that the water supply derived from the Keller well is now safe and in no wise affected by the operation of the sewage disposal works of the Santa Fe Railway shops, the quarantine on this supply was removed.

#### Investigations, Inspections and Reports.

*Los Banos:* February 11th. The local water company has installed a new chlorinator.

*Port Costa (Port Costa Water Company):* February 8th and 9th. This company supplies water to a population of about 11,000 scattered among the various towns of Contra Costa County from Concord to Rodeo along the shore of Carquinez Strait and San Pablo Bay. The supply comes primarily from wells near Concord, but a small portion is derived from surface streams and springs in canyons near Port Costa and Crockett. The canyon supplies are subject to contamination.

*Rodeo:* February 8th. The water system is privately owned. Two deep drilled wells supply the greater part of the demand and additional water is purchased from the Port Costa Water Company.

#### LABORATORY WORK.

Bacteriological examinations of water—202, of which 90 or 44.5 per cent showed contamination.

Bacteriological examination of sewage—1.

Chemical examinations of water—207 (partial).

Sanitary chemical examination of water—1.

Chemical examinations of sewage—10.



REPORT OF THE BUREAU OF TUBERCULOSIS  
FOR FEBRUARY, 1917.

E. L. M. TATE, Director.

From the Michigan State Board of Health comes the report of a year's work, in the most intensive study of tuberculosis made in this country. Michigan *knows* now what her tuberculosis problem is, and perhaps two years from now California may be able to do a piece of similar work, equally as creditable and profitable to the people of this state, whose death rate is just twice as high as that of Michigan. The Michigan survey was to last two years, with an appropriation of \$100,000 for that period. The general purpose was:

1. To find by actual physical examination every case of tuberculosis that can possibly be discovered in every community in the state.

2. To give every person and his family so discovered all the information necessary to make an effective fight for health.

3. To arouse each community during the limited time at command to a realization of the necessity of bending every effort to cope with the disease locally.

Surveys of three weeks, two weeks or one week, were made in each county according to its size. Michigan has chosen the county as the unit, just as California and many other states have done. Nurses first went into the county to secure cooperation; with this went adequate publicity. The second week, known as clinic week, came, free examinations were held, the best local diagnosticians were called in. Each patient examined was urged to report to his own doctor. Complete records were kept of all positive and suspicious cases.

The third week known as educational week was given to talks to local councils, supervisors, on the need of visiting nurses. The final week the nurses visited again in the homes of the patients to again give them instructions, and to advise the family how to guard against the infection. If nothing else was accomplished, the fact that during these twelve months 1,114 persons of legal school age (from 5 to 19 years, inclusive) were found to be tuberculous. This means the saving of hundreds of these young people.

An interesting report is made by the jails and penitentiaries. The comments of the physicians making the examinations of the inmates of these institutions are very interesting. Tuberculosis in the active stages was found in 67 prisoners. Dr. Shankwiler, the examining physician, thinks that the regulation of hours of work, sleep and recreation, coupled with no alcohol or other excess, has gone far in all the prisons toward alleviating the virulence of each individual infection.

The final recommendation of the advisory board is in favor of the formation of health districts, the need for full time health officers, open air schools, more sanatoria, a plea for better industrial conditions, such that no laborer may contract tuberculosis where he works. Such a survey as Michigan has just completed, if made by every state in this Union, would make concerted action so necessary that tuberculosis would be as rare as smallpox in twenty years. We are confronted in every town in the state, however, with the serious problem of what to do with



patients dismissed from hospitals as arrested cases. You "don't swap horses in the middle of the stream" and yet these young men and women who leave a hospital must, if they have no friends, be suddenly thrown back into industrial life to compete with healthy workers. We need a convalescent home for men and women as badly as we need anything in this state.

Much of last month was spent in visiting private sanatoria in the south and looking for sites in several of the counties. It is not easy to find those three most necessary factors: proper shelter from fog and wind, proper facilities for transportation, good water and drainage and a neighborhood that does not protest.

Los Angeles can certainly be proud of the manner in which their children's clinics are being conducted.

#### HOSPITALS INSPECTED.

San Diego, San Bernardino, San Francisco (2), Fresno.

#### PRIVATE SANATORIA.

Mont Morris, Southern Sierra's Sanatorium, Dr. King's and Palm Springs.



# REPORT OF THE BUREAU OF FOODS AND DRUGS FOR FEBRUARY, 1917.

E. J. LEA, M.S., Director.

Three hundred and seventy-three samples of foods, drugs and miscellaneous materials were received at the laboratory during the month of February.

## Official Samples.

### Foods.

Bread, gluten -----	1	Rock and rye -----	1
Coffee -----	2	Rum -----	3
Condiments -----	4	Sherry -----	1
Catsup -----	3	Vermouth -----	4
Vinegar -----	1	Whiskey -----	8
Confectionery -----	1	Meat -----	15
Cream -----	1	Bologna sausage -----	2
Egg substitutes -----	2	Chopped meat -----	5
Egg substitute -----	1	Frankfurter sausage -----	2
Snow white -----	1	Ham sausage meat -----	1
Extracts -----	6	Liver sausage -----	3
Ginger, diluted -----	2	Pork sausage -----	2
Lemon -----	1	Milk -----	74
Peppermint -----	2	Condensed -----	1
Vanilla -----	1	Malted -----	3
Fish -----	4	Pasteurized -----	9
Sardines -----	2	Raw -----	62
Tuna, canned -----	2	Oil -----	2
Gelatine -----	5	Olive -----	1
Jelly -----	1	Salad -----	1
Liquors -----	39	Oranges -----	2
American picon -----	2	Raspberries, canned -----	1
Brandy -----	1	Syrup, wild cherry -----	1
Brandy, blackberry -----	1	Vegetables -----	3
Cognac -----	3	Beans, dried -----	1
Creme de menthe -----	1	Peas, canned -----	1
Gin -----	10	Tomatoes, canned -----	1
Ginger and brandy -----	1	Walnut meats -----	3
Pisco -----	3		

### Drugs.

Aspirin tablets -----	1	Camphorated oil -----	1
Bitters -----	1	Tincture of iodine -----	1

The principal violations among the official food samples were as follows:

*Ground coffee*—containing chicory.

*Gluten bread*—materially deficient in protein.

*Catsup*—containing excessive bacteria and mold.

*Ginger and peppermint extracts*—highly diluted with water and alcohol.

*Canned sardines and tuna*—consisting of decomposed material unfit for food.

*Oranges*—damaged by frost.

*Liquors*—adulterated with inferior substitutes.

*Gelatine*—containing excessive glue.

*Chopped meat and sausage*—containing sulfur dioxid.



*Frankfurters and sausage*—containing cereals not declared on the label or by placard.

*Malted milk*—cheap or inferior material substituted for high grade brands.

*Milk*—containing excessive dirt, manure, etc. Many of these samples of milk were labeled "Grade A Pasteurized," "Guaranteed," etc., without authority from an inspecting department as required by the milk law.

*Olive oil*—consisting of rancid oil with odor of decayed vegetable material, and containing other materials than olive oil.

*Walnut meats*—consisting of rancid, shriveled and insect-infested material.

#### Unofficial Samples.

##### *Foods.*

Baking powder -----	35	Meat -----	1
Beverages -----	1	Milk, malted -----	1
Bread, gluten -----	1	Oil, salad -----	1
Cereals -----	1	Preservative (for meat) -----	1
Cream -----	2	Vegetable -----	1
Fish -----	2	Walnuts -----	1
Fruit -----	2	Water, mineral -----	1
Ice cream thickener -----	1		
Liquors -----	7		
Rum -----	1		
Whiskey -----	6		

##### *Drugs.*

Bitters -----	2
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#### State Institution Samples.

##### *Foods.*

Baking soda -----	2	Fruit, canned -----	2
Butter -----	1	Fruit, dried -----	9
Cereals -----	11	Jelly -----	1
Cheese -----	1	Meat, bacon -----	1
Coffee -----	6	Pastes -----	5
Condiments -----	3	Spices -----	17
Eggs -----	2	Shellfish -----	1
Feed -----	4	Syrup -----	3
Flour -----	14	Tapioca -----	1
Vegetables -----	14		

##### *Miscellaneous.*

Bluing -----	1	Soap and soap chips -----	9
Cleanser -----	1	Soda -----	4
Leather -----	3	Turpentine -----	2
Linseed oil -----	9		

The following list of state institution samples represents the principal deliveries which were below the specifications:

*Eggs*—sold as fresh eggs—consisted of old, stale eggs, some of which were rotten.

*Flour*—containing less protein than required by specifications.

*Fruit*—dried apricots—consisting largely of small, immature, low grade fruit.



*Cinnamon*—consisting of exhausted and worthless ground cinnamon bark.

*Mace*—consisting of false mace, or Bombay mace.

*Bluing*—inferior to quality specified.

*Soap*—laundry—containing excessive water.

#### Cold Storage Samples.

Fish -----	9	Livers -----	1
Abalone -----	2	Pork -----	1
Bloaters -----	4	Spare ribs -----	2
Herring -----	2	Sweetbreads -----	1
Shrimps and clams -----	1	Poultry -----	2
Meat -----	5	Miscellaneous fowls -----	1
		Turkey -----	1

#### FALSE DEMONSTRATIONS.

##### Butter Merger.

A patented butter merger is being demonstrated in San Francisco. This invention consists of a small tin cylinder with a plunger for stirring and forcing the air through the materials during mixing.

The literature distributed reads as follows:

##### "THE MARVEL MERGER.

"Probably the crowning feature of this wonderful device is its ability to merge either sweet milk or condensed milk into butter to a degree that *cuts the butter bills almost in half* by producing a merged butter as sweet and wholesome as ever graced your table.

Creamery butter, 1 pound (approximated cost) -----	\$0.40
Three five-cent cans condensed milk (weight, 18 oz.) -----	.15
Total cost -----	\$0.55

Work merger four to six minutes and take out over two pounds of merged butter costing about 26 cents a pound. Not a drop of the milk remains.

The merged butter contains no taste of the condensed milk, but retains the sweet wholesome flavor of the butter.

##### Another Recipe.

Creamery butter, one pound -----	\$0.40
One pint of sweet milk -----	.05
Total cost -----	\$0.45

Result: two pounds of merged butter at a cost of 22½ cents per pound; is not this a key to the high cost of living?

##### Further Directions.

Be sure that the milk is not cooler than 80 degrees; a small thermometer can be had for 15 cents. Have the butter soft, but not running. See that the merger is not chilly.

Place milk in merger first. Then add a scant teaspoonful of salt to every pound of butter used. Better add scant teaspoonful vegetable butter coloring, the same as all creameries use, as the milk makes the butter whiter. This coloring is harmless, and is used in all butter.



Work the dasher up and down rapidly and firmly, and in from four to six minutes not a drop of the milk will remain in sight. *Instead, you have twice the quantity, and more, of a merged butter even more delicious than the original and at a cost that practically will cut your butter bills in half.*

Use half the quantities named, if you wish. After merging a batch or two of butter and milk you will not require a thermometer, as you will know the temperature by the 'feel.' "

The demonstration is performed as indicated above, after which the operator explains that one-half pound of butter and one-half pint of milk, with a slight amount of salt and artificial coloring will produce one pound of merged butter, which can be used for any purpose for which ordinary butter is used, except for frying. He states that it is much better than ordinary butter for most purposes, and costs only one-half as much. He further states that the mixture contains almost as much butter fat as standard butter. In making this calculation he stated that ordinary milk contains 25 per cent of butter fat, and his argument seemed to easily convince many people in his audience, who did not know that the California standard for milk required only 3 per cent of butter fat, and that about 87 per cent of milk consists of water.

The purchaser of this merger is very much deceived by the false and misleading statements made by the demonstrator. The addition of a material containing 87 per cent water and 3 or 4 per cent fat to a similar quantity of butter cannot be said to very materially increase either the food value or the commercial value of the resultant product. There is, of course, some food value in the other ingredients of the milk, but the comparatively small amount of these ingredients is not significant, especially in view of the fact that this so-called merged butter is used, like standard butter, in relatively small amounts.

If their table, illustrating cost, which is given above was extended to show the amount of water it would appear as follows:

	Quantity	Price	Water	Per cent water
Creamery butter -----	1 lb.	\$0 40	.16 lbs.	16
Milk -----	1 pint	05	.87 lbs.	87
"Merged butter" -----	2 lbs.	\$0 45	1.03 lbs.	51.5

It sounds very well to state that this butter merger will make two pounds of merged butter at a cost slightly above the price of one pound of standard butter, but when you consider that the two pounds of merged butter contain more than one pound, or over 50 per cent, of water, the proposition does not appear so attractive.

There can be no objection to the sale and demonstration of an apparatus of this character, provided it is sold and advertised under its true colors, but it seems important that the public should be informed as to the false and deceptive character of the statements made in demonstrating this article.



### VARIATIONS IN THE STRENGTH OF BAKING POWDERS.

In the January-February number of the State Board of Health Bulletin appeared an article concerning the false demonstration and false advertising of baking powders. Among other things, the demonstrators claimed that their baking powder was twice as strong as any other baking powder. In order to show the falseness of this statement a table of analyses of twelve baking powders, collected at random in retail stores, was given. It was further indicated that there is a variation in the strength of baking powders of the same brand, usually due to manufacture or age.

The following table indicates the variation in some of the common brands found in the California markets. These samples were collected by inspectors during their regular visits to retail stores.

Brand	Available carbon dioxide	Total carbon dioxide
Crescent -----	12.9	14.8
Crescent -----	11.8	13.6
Crescent -----	10.1	12.2
Crescent -----	12.4	14.5
Crescent -----	12.1	14.1
Folger's -----	12.8	14.3
Folger's -----	13.1	14.0
Folger's -----	13.5	14.1
Calumet -----	13.2	13.8
Calumet -----	13.1	14.5
Royal -----	12.4	
Royal -----	11.4	12.2
Royal -----	12.2	
Royal -----	11.7	12.8
Royal -----	11.6	12.5
K. C. -----	11.5	12.0
K. C. -----	10.4	10.6
K. C. -----	13.7	
K. C. -----	10.5	11.9
K. C. -----	9.4	10.8
K. C. -----	9.0	9.8
K. C. -----	10.0	11.1
K. C. -----	9.6	10.8
Schilling's Best -----	14.1	14.5
Schilling's Best -----	13.2	14.1
Schilling's Best -----	13.3	14.1
Rumford -----	11.1	12.6
Rumford -----	11.2	11.4
Rumford -----	11.7	12.6
Michael Warren's -----	9.1	10.3
Gold Nugget Brand -----	8.8	10.8
Tyler's Finest -----	13.4	14.6
Goodway's -----	7.2	8.1
Goodway's -----	3.4	6.8
Goodway's -----	11.6	11.7

### FAKE ADVERTISING.

Circulars have recently been distributed by the Phonogerm Laboratory, San Francisco, which read in part as follows:

"Heed this Message! It should arouse you. It is a flash of solid truth. It admits of no argument, agitation or hesitation. It is being preached by every member of the medical profession, and it behooves you to mind its warning. There is danger staring you in the face."



The circular goes into detail in an effort to scare the public into believing that it is in great danger of contracting serious diseases from telephone mouthpieces.

The concluding paragraph of this argument is as follows:

"The telephone receiver affords ideal facilities not only for the propagation of these germs in dark, moist corners, but for their communication from one victim to another. From their lurking place they are inhaled into the lungs, where they may break through the cell barrier to run riot in the body. We practically eat them alive."

Later the statement is made that "You can destroy all micro-organism and bacteria with Phonogerm, the tested bactericide."

The question of the possibility of infection from telephone mouthpieces has been studied in many states. The results of these investigations do not show that there is any need of being alarmed about infection from this source.

The State Board of Health Bulletin, of September, 1913, contains an article entitled "A Special Report on the Possibility of the Transmission of Diseases by the Mouthpiece of the Public Telephone," written by Esther M. Skolfield, A. B., assistant bacteriologist, State Hygienic Laboratory. This article gives the detail of the investigation, which shows that there is very little danger of infection from telephone mouthpieces, and the investigation further shows that most of the devices used to prevent infection have very little value.

The conclusions of this article read as follows:

"1. The danger of infection from public telephones is probably overestimated.

"2. Mouthpieces in frequent use become unsightly if not cleaned at short intervals.

"3. From our own observations and the previous work of others we have formulated the following observations regarding 'sanitary' devices for attachment to telephone transmitters: 'Antiseptic' transmitters of the type investigated in the State Hygienic Laboratory in 1909 are entirely without value. Mechanical devices which protect and conceal the mouthpiece with fresh paper may have considerable value from the aesthetic standpoint and may possibly prevent a few infections from contact between the lips and the transmitter."

#### FROZEN ORANGES.

This department has recently investigated a number of shipments of oranges, and find that in several cases the shipments contain an excessive number of badly frozen oranges.

The law concerning this subject is as follows:

"Citrus fruit will be deemed adulterated within the meaning of the California Pure Foods Act if the contents of any package found contains 15 per cent or more of citrus fruit which, on a transverse section through the center, shows a marked drying in 20 per cent or more of the exposed pulp."



This department often receives complaints concerning frozen oranges, and when the oranges are found to be excessively damaged by frost it is necessary to take action.

*Articles of Food Condemned Upon Physical and Chemical Examination as Unfit for Food, February, 1917.*

Material	Amount	Condition	Locality	Disposition
Butter -----	14 lbs.	Rancid -----	Oakland -----	Denatured.
Catsup -----	26 bots.	Decomposed, filthy	Oakland -----	Destroyed.
Coffee -----	3,000 lbs.	Decomposed -----	San Francisco	Coal oiled.
Fruit, assorted---	1,168 cans	Moldy, decomposed	Fruitvale ----	Destroyed.
Grapes, dried ----	22 lbs.	Wormy, etc.-----	Oakland -----	Destroyed.
Milk, condensed--	215 cans	Filthy, decompos'd	Los Angeles---	Destroyed.
Milk, condensed--	167 lbs.	Filthy, decompos'd	Woodland ----	Destroyed.
Milk, condensed--	{ 13 cases, }	Filthy, decompos'd	Pasadena ----	Destroyed.
	{ 36 cans }			
Mince meat-----	31 qts.	Old, decomposed--	Santa Paula--	Destroyed.
Olive oil -----	5 pts.	Rancid -----	Los Angeles---	Destroyed.
Raisins, seeded---	26 lbs.	Moldy, wormy----	Santa Paula--	Destroyed.
Relish, Mexican				
Hot -----	5 bots.	Filthy -----	Walnut Creek--	Destroyed.
Salmon -----	31 cans	Decomposed -----	Oakland -----	Destroyed.
Sardines -----	14 cans	Decomposed -----	Covina -----	Destroyed.
Sardines -----	9 cans	Decomposed -----	Woodland ----	Destroyed.
Sauce, Worcester-				
shire -----	9 bots.	Filthy -----	Walnut Creek--	Destroyed.
	{ 71 13-oz. }			
Tomatoes -----	{ cans, }	Decomposed -----	Los Angeles---	Destroyed.
	{ 123 6½-oz. }			
	{ cans }			
Veronal -----	65 5-gr.	Adulterated -----	Covina -----	Destroyed.
	tablets			
Walnut meats----	3,650 lbs.	Rancid, moldy----	Los Angeles---	Denatured.
Walnut meats----	1,305 lbs.	Rancid, moldy----	Goleta -----	Denatured.
Walnut meats----	159 lbs.	Rancid, moldy----	Oakland -----	Destroyed.



*Cases Referred to District Attorneys, February 3, 1917.*

Name of article	Offense	Accused dealer	Locality
Asthma remedy, Michieli's.	Mislabeled; label contained false and misleading statements.	Michieli's Pharmacy	San Francisco.
Bread, gluten	Adulterated and mislabeled; common flour used in place of gluten flour.	Vienna Bakery, H. Schaefer	Sacramento.
Camphorated oil	Adulterated and mislabeled; materially below standard.	Sobel Drug Company	San Francisco.
Catsup, tomato	Adulterated and mislabeled; decomposed and unfit for human consumption.	Navy Restaurant, Chris Tsangamiles	Vallejo.
Chili sauce	Adulterated and mislabeled; decomposed and unfit for human consumption.	Schneider, Geo. F.	Los Angeles.
Chocolate, sweet	Adulterated; contained excessive foreign materials.	Castelazo & Sons	Los Angeles.
Chopped meat	Adulterated and mislabeled; contained sodium sulphite.	Sacramento Meat and Poultry Market	Sacramento.
Cognac	Adulterated and mislabeled; substitution of other materials.	O. K. Saloon, Dannheim & Neissen	Oakland.
Cottonseed oil	Adulterated and mislabeled; contained rancid oil and excessive dirt.	R. E. Reeves	Oakland.
Eggs	Adulterated and mislabeled; stale, decomposed eggs sold as fresh.	S. Ypma	Oakland.
Eggs	Adulterated and mislabeled; stale, decomposed eggs sold as fresh.	R. Kurzner	Oakland.
Eggs	Adulterated and mislabeled; stale, decomposed eggs sold as fresh.	Diller & Woloski	San Francisco.
Eggs	Adulterated and mislabeled; stale, decomposed eggs sold as fresh.	Keystone Creamery, F. B. Voorhies & Son	San Francisco.
Eggs	Adulterated and mislabeled; stale, decomposed eggs sold as fresh.	California Farmers' Exchange, F. B. Voorhies & Son.	San Francisco.
Eggs	Adulterated and mislabeled; stale, decomposed eggs sold as fresh.	Fayway Butter Store, H. L. Childs	Long Beach.
Flour, gluten	Adulterated and mislabeled; substitution of other materials.	Vienna Bakery, H. Schaefer	Sacramento.
Gin	Adulterated and mislabeled; inferior material substituted.	O. K. Saloon, Dannheim & Neissen	Oakland.
Gin	Adulterated and mislabeled; inferior material substituted.	G. Cuneo	Oakland.
Gin	Adulterated and mislabeled; inferior material substituted.	Aborn Bar, Peter Christensen	Oakland.
Gin	Adulterated and mislabeled; inferior material substituted.	Fred Gerken, The Reserve Saloon	San Francisco.



Ginger ale	Adulterated and mislabeled; capsicum not declared.	Schwartz Ginger Ale Co., J. F. Maede, Manager.	San Francisco.
Ginger, extract	Adulterated and mislabeled; deficient in strength.	Haas, Baruch & Co.	Los Angeles.
Herring, kippered	Adulterated and mislabeled; decomposed, unfit for human consumption.	W. Bowman	Los Angeles.
Milk, malted	Adulterated and mislabeled; cheap grade sold as Horlick's.	A. Castores, Paris Candy Kitchen	Oakland.
Molasses	Adulterated and mislabeled; contained excessive mineral matter and was partially decomposed by fermentation.	Pacific Coast Mail Order House, Inc.	Los Angeles.
Oysters	Adulterated and mislabeled; decomposed and unfit for human consumption.	Home Restaurant, Geo. Watanabe	Vallejo.
Peas, canned	Adulterated and mislabeled; contained copper sulphate.	Sang Hop & Co.	San Francisco.
Rum	Adulterated and mislabeled; poor quality substituted for Jamaica rum.	Louis Hamilothoris	San Francisco.
Tincture of iodine	Adulterated and mislabeled; below standard in strength.	A. A. Shaw, Quaker Drug Store	San Francisco.
Vermouth	Adulterated and mislabeled; inferior quality substituted.	J. S. Kovacevich	Oakland.
Walnuts	Adulterated and mislabeled; decomposed and rancid material.	L. Demartini Supply Co.	San Francisco.
Wine	Adulterated and mislabeled; cheap imitation substituted for Dubonnet wine.	J. S. Kovacevich	Oakland.

Convictions Under Foods and Drugs Acts, Reported During February, 1917.

Name of article	Offense	Accused dealer	Locality	Result
Camphorated oil.	Adulterated and mislabeled.	Dr. H. Kalliwoda	Los Angeles	Fined \$25.
Currant flavor jelly	Adulterated and mislabeled.	Patrick Packing and Preserving Co.	Los Angeles	Fined \$10.
Eggs*	Adulterated and mislabeled.	S. Flaws	Los Angeles	Fined \$10.
Eggs	Adulterated and mislabeled.	K. Ozaki	Los Angeles	Fined \$10.
Eggs	Adulterated and mislabeled.	Max Bloom	Los Angeles	Fined \$5.
Eggs	Adulterated and mislabeled.	Sang Wo Kee & Co.	San Francisco	Fined \$25.
Gout cure	Mislabeled	M. Rosenthal	San Francisco	O. R. 6 mos.
Lemon extract	Adulterated and mislabeled.	Ware-Miles Co.	San Francisco	Fined \$10.
Rheumatic cure	Mislabeled	M. Rosenthal	Los Angeles	O. R. 6 mos.
Vinegar	Adulterated and mislabeled.	D. Helfer	San Francisco	Guilty.
Zinn's Mystery Oil	Mislabeled	M. Rosenthal	Los Angeles	O. R. 6 mos.
			San Francisco	O. R. 6 mos.

\*Fine suspended.



The following Notices of Judgment have been received from the United States Department of Agriculture:

	N. J. No.		N. J. No.
Arthur (Bick's pine tar, honey, horehound, and wild cherry: Palestine Drug Co-----	4507	Terraline: Hillside Chemical Co-----	4503
Arthur's sexual tablets: Palestine Drug Co-----	4507	Thomas pennyroyal, tansy, and cotton root pills: Palestine Drug Co-----	4507
Beans, pork and: Rider Packing Co-----	4529	Tomato, ketchup: Lansdale Pure Food Co	4509
Bick's sirup of figs with sirup of pepsin: Palestine Drug Co-----	4507	paste: Alloway Packing Co-----	4528
Bick's nerve and brain tonic: Palestine Drug Co-----	4507	Vecchi, L-----	4548
Bick's quick pile remedy: Palestine Drug Co-----	4507	pulp: -----	4544
Bitters, fernet Milano: Piemonte Wine Cellars--	4541	Austin Canning Co-----	4550
Bran, rice. <i>See</i> Feed.		Roberts Bros-----	4526
Brandy: Fialla & Eppler-----	4537	Tomatoes, strained: Harrison, D. L-----	4510
Morand Bros-----	4502	Lung-vita: Nashville Medicine Co--	4511
Piemont Wine Cellars--	4541	Middlings. <i>See</i> Feed.	
cognac: Prince, Adolf-----	4525	Muller's famous prescription: Muller, W. H-----	4506
Burgundy. <i>See</i> Wine.		Nerve and brain tonic: Palestine Drug Co-----	4507
Cognac. <i>See</i> Brandy.		Nerve tonic: Koenig Medicine Co-----	4531
Desiccated eggs. <i>See</i> Eggs.		Oats. <i>See</i> Feed.	
Eggs, desiccated: -----	4543	Oil, cajuput: Hymes Bros. Co-----	4536
shell: Levy & Aufrichtag-----	4534	Paste, tomato. <i>See</i> Tomato paste.	
Mandelker, Philip-----	4534	Pastor Koenig's nerve tonic: Koenig Medicine Co-----	4531
Feed, bran, rice: Southern Rice Milling Co	4535	Peas: Cacciola Bros-----	4530
middlings, sunbeam: Schultz, Baujan & Co--	4542	soaked: Cooke, Shanawolf Co	4532, 4533
oats: Callahan & Sons--	4513, 4545	Pennyroyal, tansy, and cotton root pills: Palestine Drug Co-----	4507
Ficarrotta, G., & Co-----	4515	Pepper: -----	4504
Gibbons, J. T-----	4514	Parrish Bros-----	4501
Milam-Morgan Co-----	4520	Pile remedy: Palestine Drug Co-----	4507
Tate, W. R-----	4519	Pills, Thomas pennyroyal, tansy, and cotton root: Palestine Drug Co-----	4507
Trenholm-Kolp Co--	4512, 4518	Pine tar, honey, horehound, and wild cherry: Palestine Drug Co-----	4507
Zimmern's, J., Co-----	4546	Pork and beans. <i>See</i> beans.	
Fernet Milano: Piemonte Wine Cellars--	4541	Remedy, pile: Palestine Drug Co-----	4507
Gelatin: Clarkson Glue Co-----	4524	Rice bran. <i>See</i> Feed.	
Greene's sirup of tar: Greene, Lester H., Co--	4522	Rosadalis: Hall & Ruckel-----	4505
Jamaica ginger: Fialla & Eppler-----	4517		
Ketchup, tomato. <i>See</i> Tomato ketchup.			
Tar, sirup of: Greene, Lester H., Co--	4522		



	N. J. No.		N. J. No.
Sexual tablets:		Vinegar:	
Palestine Drug Co-----	4507	_____	4527, 4549
Sirup,		Chandler, B. T., & Son--	4547
of figs with sirup of pepsin:		Dixie Sugar Vinegar Co	4547
Palestine Drug Co-----	4507	Wheat:	
of tar:		Frisch, J. M., & Co----	4538
Greene, Lester H., Co--	4522	Whitehall's Dr., Megrimine:	
Succus cineraria maritima:		Whitehall, Dr., Megrimine	
Walker Pharmaceutical Co	4508	Co-----	4540
Sul-Ferro-Sol:		Wilson's, C. K., original wa-hoo-	
Sul-Ferro-Sol Co-----	4521	bitters:	
Tablets,		Old Indian Medicine Co	4523
sexual:		Wine,	
Palestine Drug Co-----	4507	Burgundy:	
Tonic,		_____	4539
nerve:		Casazza, V., & Bro----	4516
Koenig Medicine Co----	4531		
nerve and brain:			
Palestine Drug Co-----	4507		



## REPORT OF THE BUREAU OF REGISTRATION OF NURSES.

ANNA C. JAMMÉ, Director.

## Teaching in Schools of Nursing.

Considerable discussion, particularly in the past year, has centered on the teaching and training of student nurses. From various quarters we have been hearing arguments concerning the overteaching of nurses. This discussion is wholesome, and while it has not brought forth, as yet, any very tangible results, it is what is needed to bring out into the light of day and to show to those who are taking a part in the education of the nurse what is necessary for her to be taught while she is under preparation in the training school.

This is not altogether a question of curriculum, arrangement of lectures, classes and demonstrations, but it is a question of the methods of carrying out a curriculum, conducting a class demonstration and imparting the knowledge to the student. The most comprehensive and well thought out curriculum may be rendered useless and even harmful by faulty and unwise teaching.

There is no doubt whatever but that nurses have been overtaught and are still being overtaught if we can accept in this sense the teaching that is not adapted to the actual requirements of a nurse's course. In many instances nurses are led far beyond the depth of what they should have and the result is confusion and discouragement on the part of the student. A young student is frequently sent in to a lecture on a subject that should not be given to her until her second or third year, and for which she has not had the fundamental and preparatory work leading up to it. We also find that students are being taken into details of anatomy and operative surgery and into the sphere of diagnosis and treatment which is not only unnecessary, but harmful, and takes up the time that should be devoted to necessary and really fundamental things a nurse should know in order to make her a good bedside nurse and a capable assistant to physician or surgeon.

Teaching in our schools for nurses needs simplification, especially in the first year when it should be brought to the level of a young student's capability and power to grasp. It is during this time that the foundation of future work is laid and is when the student gets her grasp and intelligent viewpoint that carries her through her second and third years successfully. If she is confused by what we term overteaching, which is in reality unwise teaching in her first year, it is difficult to remedy during the second and third years and in the end there can be but disappointment for the nurse. Not a few students are feeling this and realize the need of taking more instruction or postgraduate work before attempting the state examination. There is a rapidly growing interest on the part of the student in her course of instruction and also in those who contemplate entering this work. The most encouraging aspect in the problem surrounding the training and education of the nurse is this awakening of the student herself to the valuation of her instruction and what should be the result after three years in the school. Good and wise teaching will enable her to believe in and love her work and stimulate her desire to study and to continue studying and advancing after her school has graduated her.



### The List of Accredited Schools.

Following is a list of schools of nursing accredited by the State Board of Health in the past three months. The list is now complete to March 1, 1917.

Hospitals with which school is connected	Location	Hospitals with which school is connected	Location
Agnew Sanitarium	San Diego	Lane Hospital	San Francisco
Alameda Sanitarium	Alameda	Loma Linda Sanitarium	Loma Linda
Alta Bates Sanitarium	Berkeley	Los Angeles Infirmary	Los Angeles
Angelus Hospital	Los Angeles	Mary Jessie Hospital	Santa Rosa
Buena Vista Sanatarium	San Francisco	Mary's Help Hospital	San Francisco
Burnett Sanitarium	Fresno	Mater Misericordiae Hospital	Sacramento
California Hospital	Los Angeles	Mercy Hospital	Bakersfield
Children's Hospital	San Francisco	Methodist Hospital	Los Angeles
Children's Hospital	Los Angeles	Mount Zion Hospital	San Francisco
Clara Barton Hospital	Los Angeles	O'Connor Sanitarium	San Jose
Columbia Hospital	San Jose	Pacific Hospital	Los Angeles
Cottage Hospital	Santa Barbara	Paradise Valley Sanitorium	National City
County Hospital (Alameda County)	San Leandro	Pasadena Hospital	Pasadena
County Hospital (Los Angeles County)	Los Angeles	Peninsula Hospital	Palo Alto
County Hospital (Orange County)	Anaheim	Pomona Valley Hospital	Pomona
County Hospital (San Diego County)	San Diego	Providence Hospital	Oakland
County Hospital (San Joaquin County)	French Camp	Ramona Hospital	San Bernardino
County Hospital (Santa Clara County)	San Jose	Redlands Hospital	Redlands
County Hospital (Sacramento County)	Sacramento	Roosevelt Hospital	Berkeley
Dameron Hospital	Stockton	Riverside Hospital	Riverside
Emergency and General Hospital	Los Angeles	San Francisco Hospital	San Francisco
East Bay Sanitarium	Oakland	San Luis Sanitarium	San Luis Obispo
Evans Hospital	Modesto	Santa Ana Hospital	Santa Ana
Fabiola Hospital	Oakland	Samuel Merritt Hospital	Oakland
French Hospital	San Francisco	San Antonio Hospital	Upland
German Hospital	San Francisco	Sequoia Hospital	Eureka
Glendale Sanitarium	Glenadle	Sierra Hospital	Sonora
Good Samaritan Hospital	Los Angeles	St. Francis Hospital	San Francisco
Hahnemann Hospital	San Francisco	St. Francis Hospital	Santa Barbara
Hanford Sanitarium	Hanford	St. Helena Sanitarium	St. Helena
Hazel Hawkins Memorial Hospital	Hollister	St. Joseph's Hospital	San Diego
		St. Luke's Hospital	San Francisco
		St. Mary's Hospital	San Francisco
		St. Winifred's Hospital	San Francisco
		Union Labor Hospital	Eureka
		University of California Hospital	San Francisco
		White Hospital	Sacramento

### The List of Registered Nurses.

The law requires that a list of the names of all registered nurses shall be kept by the department. This list has been made public and will be sent out free of charge. It is found that certain commercial firms are advertising a list, which they call a complete list of all registered nurses and for which they make it "imperative" that nurses on this list shall each pay \$2.00 for the insertion of their names. This is not authorized by the State Board of Health nor is it an authentic list.



## LIST OF COUNTY AND CITY HEALTH OFFICERS.

Alameda County—  
 Dr. J. Hal Cope-----Pleasanton  
 Alameda-----Dr. A. Hieronymus  
 Albany-----Dr. J. F. Diddle  
 Berkeley-----Dr. J. J. Benton  
 Emeryville-----Dr. A. T. Drennan  
 Hayward-----Dr. F. W. Browning  
 Livermore-----Dr. J. K. Warner  
 Oakland-----Dr. Kirby B. Smith  
 Piedmont-----Dr. Benj. T. Mouser  
 Pleasanton-----Dr. J. Hal Cope  
 San Leandro-----Dr. Luther Michael  
 Alpine County—  
 Mr. Fred S. Dunlap-----Markleeville  
 Amador County—  
 Dr. G. L. Lynch-----Amador City  
 Jackson-----H. E. Kay  
 Sutter Creek-----W. A. Burres  
 Butte County—  
 Dr. L. L. Thompson-----Gridley  
 Biggs-----R. W. Simmons  
 Chico-----W. H. Marshall  
 Gridley-----Dr. L. Q. Thompson  
 Oroville-----Dr. W. F. Gates  
 Calaveras County—  
 Dr. George F. Pache, Angels Camp  
 Angels Camp-----Dr. E. W. Weirich  
 Colusa County—  
 Dr. G. W. Derosier-----Colusa  
 Colusa-----Dr. G. W. Derosier  
 Contra Costa County—  
 Dr. W. S. George-----Antioch  
 Antioch-----Dr. W. S. George  
 Concord-----Dr. F. F. Neff  
 Hercules-----F. P. McManus  
 Martinez-----Dr. Edwin Merrithew  
 Pinole-----Dr. M. L. Fernandez  
 Pittsburg-----Dr. H. E. Peters  
 Richmond-----Dr. Chas. R. Blake  
 Walnut Creek-----Dr. C. R. Leech  
 Del Norte County—  
 Dr. E. M. Fine-----Crescent City  
 Crescent City-----Dr. E. M. Fine  
 El Dorado County—  
 Dr. L. M. Leisenring-----Placerville  
 Placerville-----P. J. Hall  
 Fresno County—  
 Dr. G. L. Long-----Fresno  
 Clovis-----Dr. M. S. McMurtry  
 Coalinga-----Dr. C. W. Hutchison  
 Firebaugh-----Dr. H. J. Greven  
 Fowler-----Chas. Chapman  
 Fresno-----Dr. A. H. Sweeney  
 Kingsburg-----Dr. J. A. Gillespie  
 Reedley-----Dr. Chas. H. Traber  
 Sanger-----Dr. Thos. F. Madden  
 Selma-----Dr. O. H. Steinwand  
 Glenn County—  
 Dr. F. M. Lawson-----Willows  
 Orland-----Dr. S. Iglick  
 Willows-----Dr. W. H. Walker  
 Humboldt County—  
 Dr. Carl T. Wallace-----Eureka  
 Arcata-----Dr. G. W. McKinnon  
 Blue Lake-----Dr. Chas. N. Mooney  
 Eureka-----Dr. L. A. Wing  
 Ferndale-----Dr. J. A. Lane  
 Fortuna-----Dr. Orville Rockwell  
 Imperial County—  
 Dr. R. K. McGuffin-----Imperial  
 Brawley-----Dr. Eugene Le Baron  
 Calexico-----Dr. W. L. Ellis  
 El Centro-----Chas. H. Field  
 Holtville-----C. A. Johnston  
 Imperial-----Dr. R. K. McGuffin  
 Inyo County—  
 Dr. I. J. Woodin-----Independence  
 Bishop-----

Kern County—  
 Dr. C. A. Morris-----Bakersfield  
 Bakersfield-----Dr. P. J. Cuneo  
 Delano-----Dr. George H. Shrodes  
 Maricopa-----Dr. H. N. Taylor  
 McKittrick-----Dr. Robert C. Dear  
 Taft-----Dr. M. W. Pascoe  
 Tehachapi-----Dr. N. J. Brown, Jr.  
 Kings County—  
 Dr. C. L. Scott-----Hanford  
 Corcoran-----Dr. J. T. Peery  
 Hanford-----Dr. B. Robbins  
 Lemoore-----Dr. W. P. Byron  
 Lake County—  
 Dr. W. E. Upton-----Kelseyville  
 Lakeport-----P. H. Millberry  
 Lassen County—  
 Dr. W. E. Dozier-----Susanville  
 Susanville-----Dr. F. D. Walsh  
 Los Angeles County—  
 Dr. J. L. Pomeroy-----Los Angeles  
 Alhambra-----Dr. F. E. Corey  
 Arcadia-----Dr. Chas. D. Gaylord  
 Avalon-----Dr. J. J. Peckham  
 Azusa-----Dr. John E. Hill  
 Beverly Hills-----Dr. Lowell G. Frost  
 Burbank-----Dr. E. H. Thompson  
 Claremont-----Dr. F. W. Thomas  
 Compton-----E. E. Elliott  
 Covina-----Dr. J. D. Reed  
 Eagle Rock-----Dr. C. H. Phinney  
 El Monte-----Dr. S. L. Corpe  
 Glendale-----Dr. R. E. Chase  
 Glendora-----Dr. A. L. McCarty  
 Hermosa Beach-----B. F. Brown  
 Huntington Park-----Dr. W. Thompson  
 Inglewood-----Dr. H. A. Putnam  
 Long Beach-----Dr. R. L. Taylor  
 Lordsburg-----Dr. J. E. Hubble  
 Los Angeles-----Dr. L. M. Powers  
 Manhattan Beach-----Llewellyn Price  
 Monrovia-----Dr. Chas. D. Gaylord  
 Monterey Park-----Dr. J. S. Trehwella  
 Pasadena-----Dr. Stanley P. Black  
 Pomona-----Dr. N. J. Rice  
 Redondo Beach-----Dr. D. R. Hancock  
 San Fernando-----Dr. Benj. B. Ward  
 San Gabriel-----Dr. Ruth Purcell  
 San Marino-----Dr. W. LeMoyné Wills  
 Santa Monica-----Dr. F. J. Wagner  
 Sawtelle-----Dr. A. B. Hromadka  
 Sierra Madre-----Dr. R. H. Mackerras  
 South Pasadena-----Dr. C. F. Metcalf  
 Tropic-----Dr. Wm. C. Mabry  
 Venice-----Dr. W. M. Kendall  
 Vernon-----Dr. O. R. Stafford  
 Watts-----Dr. E. J. Riche  
 Whittier-----Dr. W. H. Stokes  
 Madera County—  
 Dr. L. St. John Hely-----Madera  
 Madera-----Dr. L. St. John Hely  
 Marin County—  
 Dr. J. H. Kuser-----Novato  
 Belvedere-----Dr. Florence Scott  
 Larkspur-----J. R. McGuffick  
 Mill Valley-----James V. Chase  
 Ross-----Dr. Thos. U. Smyth  
 San Anselmo-----Dr. O. W. Jones  
 San Rafael-----Dr. W. J. Stone  
 Sausalito-----Dr. Allen H. Vance  
 Mariposa County—  
 Dr. F. L. Wright-----Mariposa  
 Mendocino County—  
 Dr. S. L. Rea-----Ukiah  
 Fort Bragg-----Dr. L. C. Gregory  
 Point Arena-----Conrad Nicks  
 Potter Valley-----W. T. Eddie  
 Ukiah-----Dr. Lew K. Van Allen  
 Willits-----Dr. F. C. Gunn